

ASEAN Investment Report 2018

Foreign Direct Investment and the Digital Economy in ASEAN



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ASEAN Investment Report 2018

Foreign Direct Investment and the Digital Economy in ASEAN

The ASEAN Secretariat

**United Nations Conference on Trade
and Development**

The Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967. The Member States of the Association are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

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The map in this publication is only indicative and is not drawn to scale.

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The ASEAN Investment Report is produced to facilitate a better understanding of FDI developments in ASEAN. The findings, interpretations, and analysis in the Report should be treated with care, as work on harmonising and improving FDI quality across the region is on-going.

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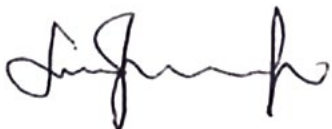
FOREWORD

FDI flows to ASEAN rose to a record level, from \$123 billion in 2016 to \$137 billion in 2017, underpinned by significant rise in investment in eight Member States. As a result, ASEAN's share of FDI flows to developing economies rose from 18 per cent in 2016 to 20 per cent in 2017. Of the total FDI flows to East and South-East Asia, ASEAN's share also increased from 31 per cent in 2016 to 34 per cent in 2017. Intra-ASEAN investments, the biggest contributor to FDI flows in the region, reached a new high of \$27 billion, or around 19 per cent to total inflows in the region.

An important development in ASEAN is the rising investment in the digital economy, which includes e-commerce, fintech, venture capital and other digital activities such as in the development of data centres and various information and communication technology (ICT) infrastructure. Foreign and ASEAN digital MNEs and ICT companies are now increasing their attention on the region. Greenfield non-manufacturing ICT investment projects have grown rapidly from \$2.8 billion in 2010 to \$3.9 billion in 2017, while cross-border ICT mergers and acquisitions rose from just \$172 million in 2010 to \$3.6 billion in 2017.

At the regional level, ASEAN Member States are intensifying cooperation to strengthen the competitiveness of their ICT industries, expand e-commerce and facilitate digital connectivity, including through working towards the signing of an ASEAN e-commerce agreement and adoption of an ASEAN Digital Integration Framework to facilitate transformation of the region into a competitive global digital hub.

Given the above developments and the promising prospect for investment in the digital economy in the region, this year's ASEAN Investment Report is very timely. The 2018 Report looks into the investment landscape and implications of digital economy and e-Commerce in ASEAN, and also discusses the policy options and digital economy strategy for the region. ASEAN needs to keep the momentum of rising investment in the ICT sector by intensifying its collective effort to narrow the digital divide, develop digital skills, address logistical bottlenecks and payment systems, and manage the potential risks of the digital revolution, as it moves forward to embrace the fourth industrial revolution (4IR).



Dato Lim Jock Hoi

Secretary-General of ASEAN

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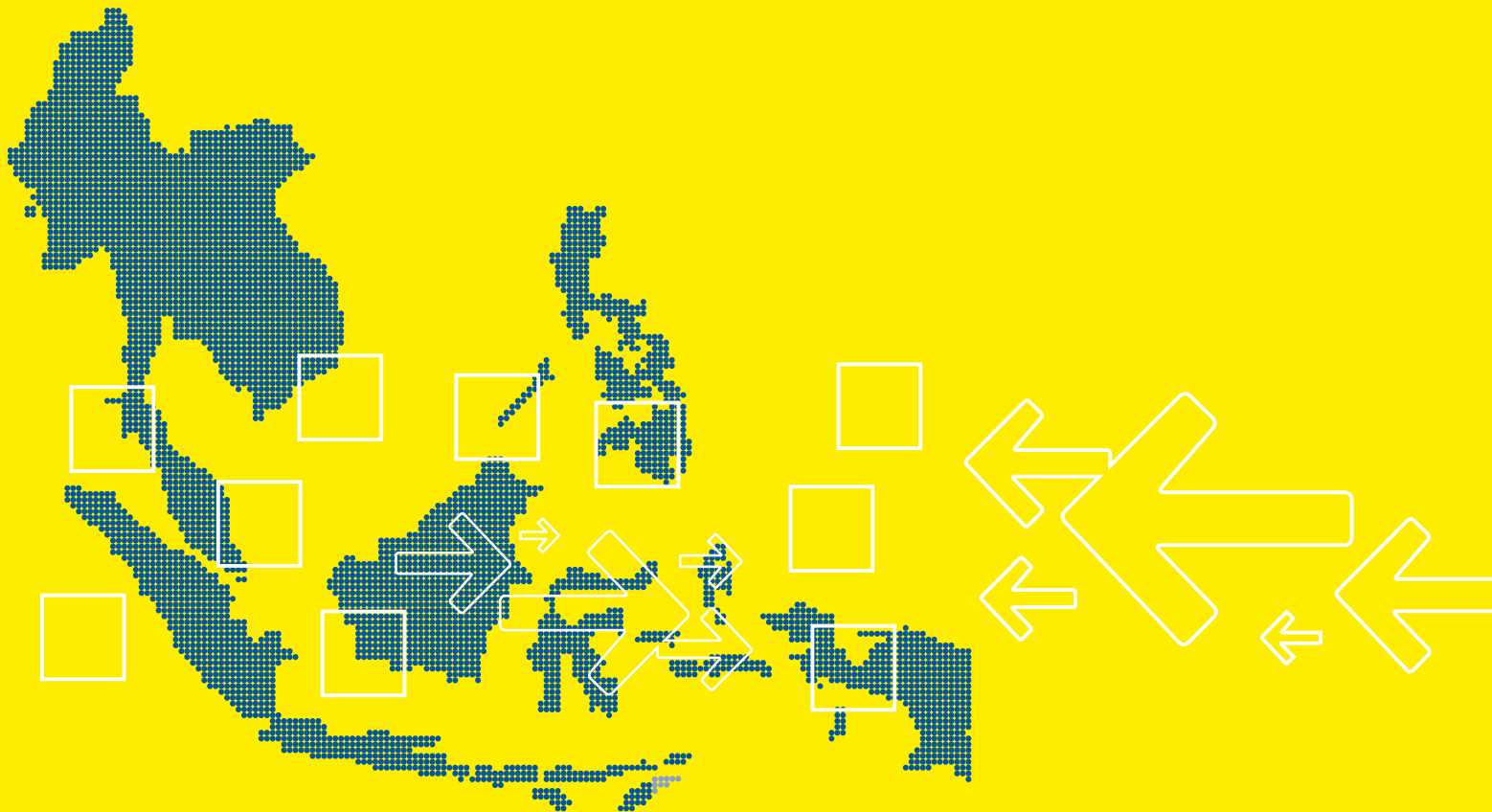
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ABBREVIATIONS

AANZFTA	ASEAN–Australia–New Zealand Free Trade Agreement
AEC	ASEAN Economic Community
AFTA	ASEAN Free Trade Area
AIR	ASEAN Investment Report
AMS	ASEAN Member States
ATIGA	ASEAN Trade in Goods Agreement
BPO	business process outsourcing
CAGR	compound annual growth rate
CLMV	Cambodia, Lao People's Democratic Republic, Myanmar, Viet Nam
EU	European Union
FDI	foreign direct investment
GDP	gross domestic product
GLCs	Government-linked companies
GVC	global value chain
ICT	information and telecommunication technology
IT	information technology
JV	joint venture
M&A	merger and acquisition
MNEs	multinational enterprises
MSMEs	micro, small and medium enterprises
MW	megawatts
OFDI	outward foreign direct investment
R&D	research and development
RCEP	Regional Comprehensive Economic Partnership
RVCs	regional value chains
SEA-ME-WE	South East Asia–Middle East–Western Europe
SEZ	special economic zone
SOEs	State-owned enterprises
SMEs	small and medium-sized enterprises
UNCTAD	United Nations Conference on Trade and Development
VC	venture capital
WIR	World Investment Report

OVERVIEW



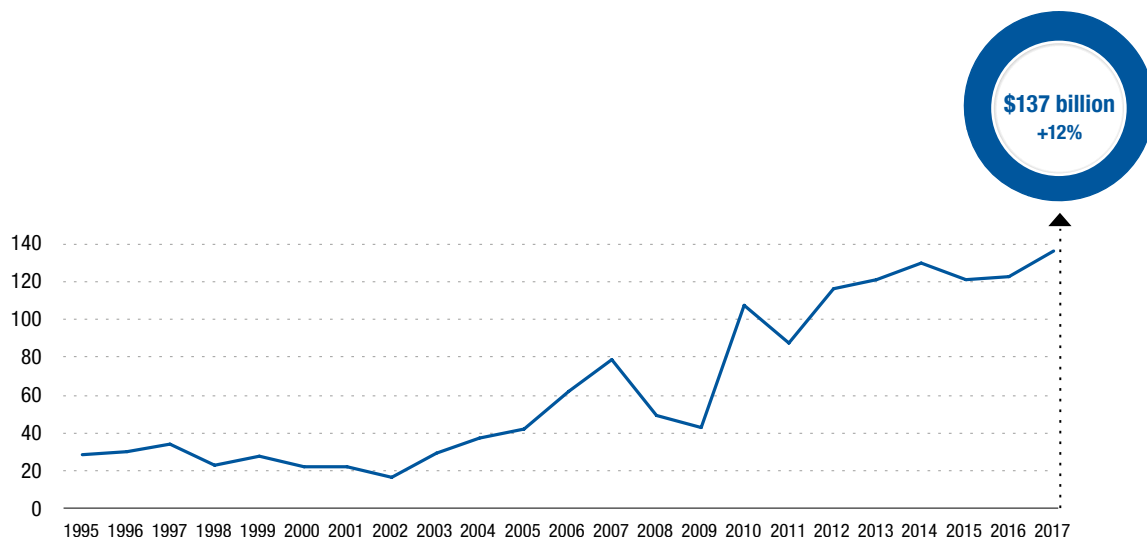
OVERVIEW

FDI AND CORPORATE INVESTMENT TRENDS

Foreign direct investment (FDI) flows to ASEAN rose from \$123 billion in 2016 to an all-time high of \$137 billion in 2017, with a rise in investments in eight Member States (figure 1). Inflows to Indonesia increased five-fold, from \$3.9 billion in 2016 to \$23.1 billion; flows to Thailand tripled, to \$9.1 billion; and flows to the Philippines rose by 21 per cent, to \$10 billion. Combined FDI flows to the four CLMV countries (Cambodia, the Lao People's Democratic Republic, Myanmar and Viet Nam) reached a record level in 2017, increasing by 21 per cent to \$23 billion – accounting for 17 per cent of total FDI flows in ASEAN. With flows exceeding \$14 billion, Viet Nam was the third largest recipient within ASEAN and accounted for over 60 per cent of flows to the CLMV countries. Inflows to Brunei Darussalam increased from -\$0.2 billion in 2016 to \$0.5 billion.

The rise in inflows help pushed up ASEAN's share of global FDI to developing economies from 18 per cent in 2016 to 20 per cent in 2017, and from 31 per cent in share of flows to East and South-East Asia in 2016 to 34 per cent last year.

Figure 1. FDI flows in ASEAN, 1995–2017 (Billions of dollars)



Source: ASEAN Secretariat, ASEAN FDI database.

In 2017, three Member States (Singapore, Indonesia and Viet Nam) accounted for 72 per cent of FDI inflows in ASEAN, suggesting a high level of concentration. However, FDI flows are gradually reaching more ASEAN countries; concentration was higher in previous years, at a 79 per cent annual average for the top three recipients in 2012–2016. Singapore remained the region's largest recipient, accounting for 45 per cent of total FDI in ASEAN, despite a decline from \$77 billion in 2016 to \$62 billion in 2017, caused largely by an 80 per cent drop in investment in finance activities.

Intra-ASEAN investments, the biggest contributor to FDI flows in the region, rose for the second consecutive year to a new high (\$27 billion), contributing 19 per cent to total inflows. The largest source of intraregional investment was Singapore (69 per cent), followed by Malaysia and Thailand. About 95 per cent of intra-ASEAN investment last year came from these three countries. Investment from Singapore into the region rose from \$15.4 billion in 2016 to \$18.3 billion in 2017. However, not all investment from Singapore is indigenous, as foreign MNEs also invested through their Singapore operations in other ASEAN countries.

Indonesia remained the largest recipient of intraregional investment, absorbing more than 45 per cent of intra-ASEAN investments last year. ASEAN investments into Indonesia rose by 20 per cent to \$11.9 billion in 2017, buoyed by a 28 per cent rise in investment from Singapore (the largest investor in Indonesia) to \$10.7 billion.

Singapore was the largest investor across the region, followed by Japan. An increase in investments from China, the Netherlands, Germany, Switzerland and Australia further contributed to the higher inflows.

The increase in FDI flows was also underpinned by a significant rise in cross-border mergers and acquisitions (M&As) by 124 per cent, to \$16.7 billion in 2017. Foreign multinational enterprises (MNEs) and ASEAN companies continued to expand in the region across a broad range of industries and in many cases with multiple investments. MNEs such as Aeon (Japan), Seven-Eleven (Japan), Continental (Germany), Alibaba (China) and ASEAN companies such as Axiata (Malaysia), Ayala (Philippines), San Miguel (Philippines), Keppel (Singapore), Maybank (Malaysia), RedDoorz (Singapore) and Siam Cement (Thailand) expanded in multiple ASEAN countries.

There were significant changes in the industry pattern of investment, with wholesale and retail trade emerging as the largest industry recipient, overtaking finance and manufacturing (the traditional main recipients). FDI in wholesale and retail rose by 75 per cent to \$38.9 billion, led by the opening of consumer retail stores, supermarkets and malls, and by e-commerce activities. Manufacturing investment increased by 56 per cent to \$31.6 billion. FDI in mining rose marginally to \$4 billion, while FDI in finance and banking fell to \$15.6 billion, from \$41.4 billion in 2016 (mainly because of Singapore). Investment in the extractive industry was concentrated in a few Member States with rich resource endowments.

Investments in a few emerging recipient industries are worth monitoring closely because of their potential impact on economic and social development. These industries include health care, research and development (R&D) activities and

e-commerce, including fintech. Investments in these industries tend to focus on countries with competitive ecosystems and rapidly growing industry clusters, such as in the automotive and the electronics industries. For example, Apple (United States) established its first Indonesian R&D facility, Dyson (United Kingdom) opened a technology centre in Singapore, Denka (Japan) a chemical R&D operation in Singapore, Nissan (Japan) an R&D facility in Thailand, Osram Opto Semiconductor (Germany) an R&D operation in Malaysia and Samsung (Republic of Korea) an R&D centre for mobile phones in Viet Nam.

Investment prospects in the region are promising, with improvements in the investment environment, strong economic growth, a growing middle class and advancing regional integration. These optimistic prospects are corroborated by a number of investment and business surveys. Many MNEs from the European Union, Japan and the United States with operations in the region plan to increase investment in ASEAN. About 80 per cent of United States and European corporate executives with businesses in ASEAN expect their companies' trade and investment in the region to increase in the next five years. More than half of Japanese companies in ASEAN expect to expand their operations in the region in the next two years.

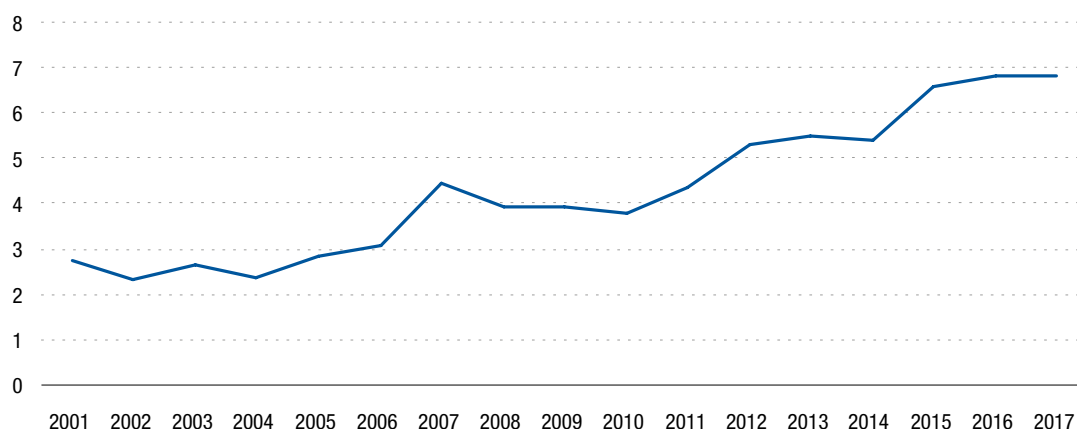
With improving commodity prices, Member States such as Brunei Darussalam, Indonesia and Myanmar will continue to see strong growth in investments in the extractive industry, and others, including the Lao People's Democratic Republic, expect further investment in power generation. Foreign and ASEAN MNEs are likely to remain active in infrastructure activities, given the steady economic and industrial growth and the commitment of countries in the region to infrastructure development. The competitiveness of the region for manufacturing and services will also continue to attract FDI flows into these industries. In addition, emerging investment opportunities in the digital economy will push more digital firms to adopt regional strategies to benefit from network effects and scalability.

AUSTRALIAN FDI AND MNEs IN ASEAN

ASEAN and Australia have a long history of strong business ties. The region is an important destination for Australian investment, and the economic ties between Australia and ASEAN continue to grow.

FDI flows from Australia into ASEAN are increasing (figure 2). **Australian FDI stock in ASEAN rose by 85 per cent between 2010 and 2017, from \$17.0 billion to \$31.4 billion.** Australia was the eleventh largest investor in ASEAN in that period. About 7 per cent of Australian global outward FDI stock in 2017 was in ASEAN, up from just 4 per cent in 2010. This number is not small when compared with the equivalent shares of global outward FDI stock in ASEAN of the European Union (2 per cent), the United States (5 per cent) and China (6 per cent).

Australian FDI is highly concentrated in three countries (Singapore, Thailand and Indonesia), which accounted for more than 90 per cent of Australian investments in ASEAN in

Figure 2. ASEAN share of Australian global outward FDI stock, 2001–2017 (Per cent)

Source: Australian Bureau of Statistics.

1995–2017 in value terms. However, Australian companies are present across the region. The CLMV countries receive a proportionately small (less than \$175 million annually in 2015–2017) but rising amount of Australian FDI. Among these countries, Viet Nam receives the most.

Australian companies operate in a wide range of industries in ASEAN but are concentrated in services (mainly in banking and finance) and extractive activities. This concentration reflects the strengths and internationalization aspirations of Australian companies in these industries. Australian manufacturing-oriented FDI in general is less significant. Other services industries such as health care, information technology and business process outsourcing, and activities related to the digital economy are attracting growing attention from Australian companies.

Some 60 per cent of the 100 largest Australian companies have an investment presence in ASEAN, which is testament to the importance of the region as an investment destination for these firms. Among the other 40 per cent, some have connections with the region through export ties or for sourcing of materials. These 40 per cent could be regarded as potential sources of additional Australian investment in ASEAN.

Of the 75 largest Australian MNEs with a presence in ASEAN, 46 have operations in two or more ASEAN countries (table 1). **The list is dominated by extractive companies (15) followed by banking and finance corporations (13).** The latter group has the most extensive regional footprint in ASEAN. For instance, the Australia and New Zealand Banking Group is present in nine ASEAN countries and the Commonwealth Bank of Australia in seven. However, 29 of these top 75 Australian MNEs operate in just one ASEAN country. These companies can be potential targets for encouraging regional expansion or added regional value chain activities.

Table 1. Top 75 Australian MNEs with presence in ASEAN, ranked by assets, 2010 and 2016 (Millions of dollars)

Rank	Name	Industry	Total Assets (\$ millions)		Presence in ASEAN countries
			2010	2016	
1	Commonwealth Bank of Australia	Banks	715,320	749,660	Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
2	Australia & New Zealand Banking Group	Banks	513,412	701,064	Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
3	Westpac Banking Corp	Banks	597,008	643,080	Indonesia, Lao PDR, Malaysia, Philippines, Singapore, Thailand
4	Macquarie Group Ltd	Capital markets	163,225	139,828	Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
5	BHP Billiton Ltd	Metals and mining	102,920	117,006	Indonesia, Malaysia, Philippines, Singapore
6	BHP Billiton Plc	Metals and mining	102,920	117,006	Indonesia, Malaysia, Philippines, Singapore
7	AMP Ltd	Financial services	93,721	101,081	Malaysia, Singapore
8	Rio Tinto	Metals and mining	112,773	89,263	Indonesia, Lao PDR, Malaysia, Philippines, Singapore
9	Suncorp Group Ltd	Insurance	102,268	74,560	Indonesia, Singapore
10	QBE Insurance Group Ltd	Insurance	41,386	41,583	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
11	Telstra Corp Ltd	Telecommunication	40,605	32,350	Indonesia, Malaysia, Philippines, Thailand
12	Wesfarmers Ltd	Food and staples retailing	43,712	30,800	Indonesia, Singapore
13	Woodside Petroleum Ltd	Oil, gas and consumable fuels	20,196	24,753	Malaysia, Myanmar, Singapore
14	Origin Energy Ltd	Oil, gas and consumable fuels	28,810	19,348	Singapore, Viet Nam
15	Fortescue Metals Group Ltd	Metals and mining	8,627	19,115	Singapore
16	Challenger Ltd	Financial services	19,103	17,668	Singapore
17	Santos Ltd	Oil, gas and consumable fuels	14,087	15,262	Singapore, Viet Nam
18	Stockland	Real estate investment	15,606	13,433	Singapore
19	Qantas Airways Ltd	Airlines	22,339	13,222	Indonesia, Philippines, Singapore, Thailand, Viet Nam
20	Newcrest Mining Ltd	Metals and mining	17,282	11,583	Indonesia, Singapore
21	Goodman Group	Real estate investment	8,102	9,760	Singapore
22	CSL Ltd	Biotechnology	5,428	9,123	Singapore
23	Amcor Ltd	Containers and packaging	11,700	9,083	Indonesia, Singapore, Thailand
24	Brambles Ltd	Commercial services and supplies	7,768	7,748	Singapore
25	Aurizon Holdings Ltd	Road and rail	9,865	7,560	Malaysia, Singapore
26	BlueScope Steel Ltd	Metals and mining	8,346	7,352	Brunei Darussalam, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
27	Boral Ltd	Construction materials	6,070	7,151	Indonesia, Malaysia, Philippines, Thailand, Viet Nam
28	Incitec Pivot Ltd	Chemicals	6,093	6,651	Indonesia, Malaysia, Singapore
29	Ramsay Health Care Ltd	Health care	3,804	6,400	Indonesia, Malaysia
30	Downer EDI Ltd	Commercial services	3,974	5,823	Indonesia, Malaysia, Singapore, Thailand, Viet Nam
31	Orica Ltd	Chemicals	6,749	5,054	Indonesia, Malaysia, Philippines, Singapore, Thailand
32	Virgin Australia Holdings Ltd	Airlines	4,114	4,880	Singapore
33	Coca-Cola Amatil Ltd	Beverages	5,400	4,673	Singapore, Indonesia
34	Treasury Wine Estates Ltd	Beverages	3,967	4,053	Singapore
35	Computershare Ltd	IT services	2,873	3,947	Malaysia
36	Star Entertainment Group Ltd	Hotels, restaurants and leisure	4,168	3,851	Singapore
37	Caltex Australia Ltd	Oil, gas and consumable fuels	5,413	3,827	Singapore
38	Seven Group Holdings Ltd	Trading	5,166	3,713	Indonesia
39	Healthscope Ltd	Health care	3,573	3,609	Malaysia, Singapore, Viet Nam
40	WorleyParsons Ltd	Energy equipment and services	4,087	3,270	Malaysia
41	Washington H Soul Pattinson & Co	Oil, gas and consumable fuels	3,876	3,262	Malaysia, Singapore
42	Harvey Norman Holdings Ltd	Multiline retail	4,288	3,217	Malaysia, Singapore
43	TPG Telecom Ltd	Telecommunication	867	2,861	Philippines
44	SEEK Ltd	Professional services	1,040	2,828	Indonesia, Philippines, Singapore, Thailand,
45	Qube Holdings Ltd	Transportation Infrastructure	943	2,827	Indonesia, Malaysia, Singapore
46	Nufarm Ltd/Australia	Chemicals	2,797	2,626	Indonesia, Malaysia, Singapore
47	Cromwell Property Group	Real estate investment	1,649	2,619	Singapore
48	Orora Ltd	Containers and packaging	..	2,582	Singapore

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Table 1. Top 75 Australian MNEs with presence in ASEAN, ranked by assets, 2010 and 2016 (Millions of dollars) (Concluded)

Rank	Name	Industry	Total Assets (\$ millions)		Presence in ASEAN countries
			2010	2016	
49	Flight Centre Travel Group Ltd	Hotels, restaurants and leisure	2,062	2,453	Malaysia, Singapore, Thailand, Viet Nam
50	Ansell Ltd	Health care equipment and supplies	1,303	2,451	Malaysia, Singapore, Thailand, and Viet Nam
51	Primary Health Care Ltd	Health care	4,097	2,391	Singapore
52	IOOF Holdings Ltd	Capital markets	2,204	2,112	Indonesia, Singapore Thailand
53	Brickworks Ltd	Construction materials	2,047	1,910	Malaysia, Singapore
54	OZ Minerals Ltd	Metals and mining	3,465	1,899	Singapore
55	Iluka Resources Ltd	Metals and mining	1,985	1,763	Singapore
56	ALS Ltd	Professional services	1,214	1,644	Cambodia, Malaysia, Singapore, Thailand
57	CSR Ltd	Construction materials	2,339	1,603	Indonesia, Malaysia, Singapore
58	Beach Energy Ltd	Oil, gas and consumable fuels	1,701	1,454	Indonesia, Singapore
59	Mineral Resources Ltd	Metals and mining	1,039	1,409	Philippines
60	Steadfast Group Ltd	Insurance	..	1,382	Singapore
61	Adelaide Brighton Ltd	Construction materials	1,363	1,318	Malaysia
62	Atlassian Corp Plc	Software	..	1,284	Philippines
63	Premier Investments Ltd	Specialty retail	1,304	1,262	Malaysia, Singapore
64	Link Administration Holdings Ltd	IT services	..	947	Brunei Darussalam, Malaysia, Singapore
65	Dulux Group Ltd	Chemicals	555	916	Indonesia, Malaysia, Myanmar, Singapore, Viet Nam
66	Cochlear Ltd	Health care equipment and supplies	794	872	Malaysia, Singapore
67	Nib holdings Ltd	Insurance	685	872	Thailand
68	Pendal Group Ltd	Capital markets	314	699	Singapore
69	Corporate Travel Management Ltd	Hotels, restaurants and leisure	63	568	Singapore
70	carsales.com Ltd	Internet software	148	414	Indonesia, Malaysia, Thailand
71	Blackmores Ltd	Personal products	164	316	Indonesia, Malaysia, Singapore, Thailand
72	WiseTech Global Ltd	Software	..	212	Singapore, Philippines
73	Altium Ltd	Software	29	211	Viet Nam
74	IDP Education Ltd	Consumer services	..	184	Thailand
75	Bellamy's Australia Ltd	Food products	..	120	Singapore

Sources: Based on Bloomberg, Orbis and company websites.

Note: Ranked by 2016 global assets of companies.

Some Australian companies select an ASEAN Member State to be their regional headquarters or undertake production in it for export to other ASEAN countries. For example, Malaysia is the regional headquarters for the paint manufacturer DuluxGroup, with production exported to Brunei Darussalam, Indonesia, Singapore and Viet Nam. Treasury Wine Estates uses Singapore as a base for coordinating sales to other ASEAN countries, and Nufarm uses Malaysia as a base to sell into Singapore.

There is scope for Australian FDI in ASEAN to grow because of strong investment interests, positive perceptions and investment plans of Australian MNEs in ASEAN.

This prospect is also corroborated by major studies on Australian companies in ASEAN. The internationalization drive of Australian MNEs, geographical proximity and investment opportunities will continue to be important factors. Given the strengths of Australian companies in services (banking and finance) and in extractive activities, companies in these groups will continue to be major sources of Australian investments in ASEAN with emerging interests in the digital economy, IT and health care services. Further, ASEAN's improving investment environment and the benefits of regional integration – including opportunities associated with the ASEAN–Australia–New Zealand FTA and the forthcoming Regional Comprehensive

Economic Partnership – will encourage Australian companies to invest and expand in the region to further strengthen their value chains. The support of the Australian Government in encouraging Australian companies to invest in the region will further strengthen business-to-business and investment ties. This is exemplified by the active participation of the various Australian chambers of commerce in the region and by the support programmes such as the Launchpad, which helps Australian start-ups invest in ASEAN. Better coordination of efforts in promoting investment opportunities in ASEAN to prospective Australian investors and stakeholders is worth consideration. For instance, in addition to ongoing government efforts, Australian and ASEAN industry associations and chambers of commerce could be useful conduits for disseminating information on regional integration and investment opportunities to their members.

ASEAN MNEs AND BUSINESS GROUPS

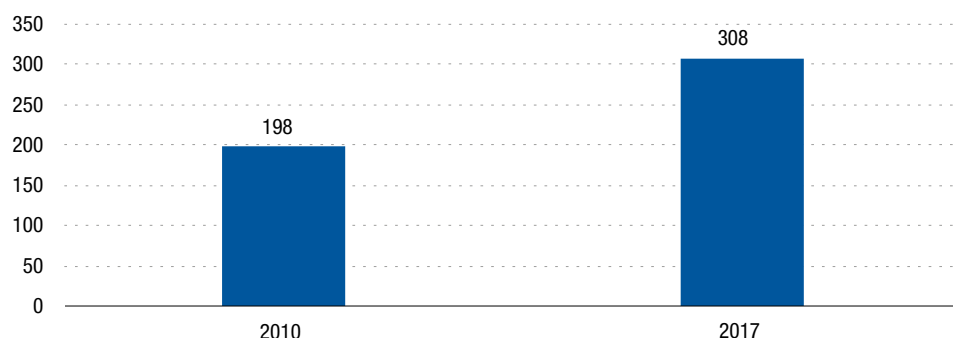
Large firms in ASEAN play an important role in the rise of intra-ASEAN investments and in connecting the region through their extensive regional investments, business expansion, subsidiary networks, production linkages, sourcing activities, infrastructure development and participation in regional value chains.

Of the 100 largest non-financial ASEAN companies, 77 have operations in other ASEAN countries. The other 23 are purely domestically focused due to the nature of their business (e.g. public utilities or large domestic market services firms), corporate policy to serve the home market and the significant influence of their large home-country domestic markets, which have contributed to their reluctance to internationalize.

Looking specifically at the 100 largest MNEs based in and with subsidiaries in ASEAN, they have expanded significantly in the region during this decade (annex table 1). **The number of subsidiaries of these MNEs in the region rose from 198 in 2010 (about two each, on average) to 308 in 2017 (about three each) (figure 3). In addition, in 2010, 30 of the 100 largest ASEAN MNEs did not have a presence in other ASEAN countries but by 2017, all of them had established at least one subsidiary in the region outside their home country. Some 40 per cent had established operations in four or more ASEAN countries in 2017, compared with only 18 per cent in 2010.**

Malaysia, Singapore, Thailand and the Philippines are home to more than 90 per cent of the 100 largest ASEAN MNEs. All ASEAN countries witnessed an increase in the expansion of regional operations by these MNEs but Singapore, Myanmar, Indonesia and Viet Nam saw a bigger increase in the number of operations during 2010–2017. Cost advantages, local market factors, natural resources, investment opportunities and business ecosystems (Singapore) played a role in the geographical distribution of the subsidiaries of these ASEAN MNEs.

The regional expansion of the 100 largest ASEAN MNEs is enabled by their strong asset holdings and cash positions, and supported by regional integration. These MNEs had combined assets of nearly \$1.1 trillion in 2017 (up 65 per cent since 2010) –

Figure 3. Top 100 ASEAN MNEs: Number of subsidiaries in other ASEAN countries, 2010 and 2017

Source: Based on table 3.1.

about the combined GDP of seven ASEAN countries (Brunei Darussalam, Cambodia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines and Singapore) or about the size of the total inward FDI stock in Singapore (the fifth largest recipient of global FDI stock).

They also held some \$96 billion in cash or near-cash items in 2017 – almost the size of the combined GDP of Cambodia, the Lao People's Democratic Republic and Myanmar.

Some of the top 100 are themselves part of larger ASEAN business groups, which are expanding their regional footprint through multiple corporate layers. These business groups include Lippo, Salim and Sinar Mas (all Indonesia); Axiata, Kuok and CIMB (Malaysia); Ayala, Top Frontier and JG Summit (Philippines); Charoen Pokphand and Siam Cement (Thailand); and Sembcorp and Singapore Telecommunication (Singapore).

These business groups have a number of common features. They have complex ownership structures with many layers of subsidiaries and sub-subsidiaries. Some own a few hundred subsidiaries or groups of companies. Their complexity is further increased by cross-holdings of equity shares within the group. They are conglomerates involved in a wide range of businesses. Some of their subsidiaries are large diversified MNEs in their own right such as San Miguel (Philippines), a member of the Top Frontier Group (Philippines); Wilmar (Singapore), a member of the Kuok Group (Malaysia); CP Foods (Thailand), a member of the Charoen Pokphand Group (Thailand); and Golden Agri-Resources (Singapore), a member of the Sinar Mas Group (Indonesia). **The ability to leverage the combined resources of the group is a key feature of business groups, driven by ownership of a portfolio of skill sets within the group, diversified business interests and the ability to control, internalize and maximize the benefits of value chains.**

Through their extensive business operations, ASEAN business groups play a significant role in connecting countries in the region with each other and with countries outside ASEAN.

Specifically, ASEAN MNEs and business groups are connecting ASEAN through (i) subsidiaries and sub-subsidiaries that are connected and operate in different ASEAN locations; (ii) investments in different ASEAN countries; (iii) production, supply chain and sourcing activities in different places, including in regional production networks; (iv) participation in the development of infrastructure and economic zones in the region; (v) trade, intrafirm and interfirm activities; and (vi) more recently, financing start-ups in the region, including investing in venture capital funds based in ASEAN.

Regional economic cooperation and integration efforts are important factors influencing the investments of these large MNEs and business groups. It is expected that the ASEAN Economic Community 2025 will provide further impetus for business groups to engage in intraregional investment. While the strength of business groups and their capabilities in intraregional investment support the regional integration objectives of ASEAN, their dominance in regional investment patterns can, in the longer term, have drawbacks in such areas as corporate governance (due to complex corporate structures) and competition.

INVESTMENT IN THE DIGITAL ECONOMY

ASEAN's digital economy has been growing rapidly, backed by the region's fast expanding digital networks and numbers of mobile phone and Internet users. ASEAN has the third largest number of Internet users in the world after China and India. The region's active participation in digital development and promotion of investment in information and communication technology (ICT) infrastructure are major drivers of this growth. **The Internet economy (transactions conducted online) was estimated to be worth \$50 billion in 2017 and is expected to become a \$200 billion economy by 2025.** Fulfilling this potential, however, will require the right policy and regulatory framework to encourage further participation and investment by the private sector. It also requires addressing key challenges and potential drawbacks associated with rapid growth of the digital economy

Cross-border investment in the digital economy in ASEAN is rising, as measured by greenfield investment in ICT projects and cross-border M&As in ICT as well as in the digital sectors such as in e-commerce, digital content, Internet platforms and digital solutions. **Greenfield ICT-related investment projects (in manufacturing and non-manufacturing segments) in ASEAN averaged about \$11 billion annually in 2010–2017 as compared with \$10 billion in 2003–2009. But non-manufacturing ICT greenfield investment projects grew rapidly from \$2.8 billion in 2010 to \$3.9 billion in 2017, and from 24 per cent share of total greenfield ICT investment in 2003–2007 to 51 per cent in 2013–2017. Cross-border ICT M&As have risen rapidly, from just \$172 million in 2010 to \$3.6 billion in 2017. Venture capital investments with exposure to the digital economy averaged \$2.7 billion a year during 2014–2017 with an annual average growth of more than 54 per cent per year in this period. The increasing use of the M&A channel is a key feature, as digital and ICT MNEs seek to gain quick scale-up, access technology and skills, and expand networks in the region.**

The digital revolution is disrupting and transforming industries, businesses and the delivery of goods and services in ASEAN. As much as it has brought challenges, the digital economy has also generated opportunities to accelerate development by increasing business efficiency and productivity, widening access to existing or new markets, and facilitating participation in GVCs. This transformation touches on many areas of e-commerce such as retailing, transportation (e.g. ride-hailing), advertising, distribution and delivery of goods and services, and in payment systems as well as in digital content and digital solutions.

Different categories of players, from telecommunication infrastructure MNEs, digital firms and traditional companies to enablers such as venture capital funds are contributing to the development of ASEAN's digital economy. Digital companies (tech and e-commerce entities) and ICT MNEs (enablers in providing infrastructure) are investing in different segments of digital value chains, from building telecommunication infrastructure to upgrading technologies, from establishing data centres to funding start-ups. **Mostly local companies with participation by foreign ICT MNEs contribute to the development of telecommunication infrastructure in the region, which provides the foundation for the digital economy. They have invested (in terms of capital expenditure) an average of \$10 billion annually over the past 12 years in telecommunication infrastructure and are expected to contribute \$13 billion annually through 2030 to support new infrastructure, broaden coverage, meet data demand and upgrade technology (from 3G to 4G or 5G).**

Digital MNEs

Companies from the United States dominate the top 30 digital MNEs present in the region, but Asian digital MNEs such as from China (e.g. Alibaba and Tencent) have been actively investing in ASEAN in recent years (table 2). Although most of the top 30 are present in multiple countries, a few countries dominate as hosts: Singapore leads with assets of all 30, followed by Malaysia (19), Indonesia (13), the Philippines (10), Thailand (9) and Viet Nam (8).

Digital start-ups

The expansion of the digital economy in ASEAN has given rise to, and been fuelled by, a growing number of digital or tech start-ups, which are adding to the pool of SMEs and digital companies in the region. As of August 2018, there were more than 13,500 digital or tech start-ups across ASEAN, almost two thirds of which were based in Singapore (34 per cent) and Indonesia (31 per cent). Besides contributing to digital innovation, these start-ups are advancing regional connectivity through their cross-border, intra-ASEAN operations and investments, and some have developed into large regional players (e.g. Grab, Go-Jek).

The 50 largest ASEAN digital start-ups in terms of funding raised had attracted \$13.8 billion worth of capital as of June 2018 (table 3), as compared with only \$1 billion in 2015.

Table 2. Top 30 digital MNEs with presence in ASEAN, 2016 (Billions of Dollars)

Company	Headquarters	Digital activity	Global assets (\$ billions)	Global assets (\$ billions)	ASEAN countries (selected locations)
			2016	2016	
Comcast	United States	Banks	166.6	74.5	Singapore
Alphabet	United States	Banks	147.2	75.0	Singapore
Liberty Global	United States	Banks	67.9	18.3	Indonesia, Malaysia, Singapore
Amazon.Com	United States	Capital markets	65.4	107.0	Indonesia, Singapore
Time Warner	United States	Metals and mining	63.8	28.1	Philippines, Singapore
Alibaba Group	China	Metals and mining	56.4	15.6	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
Facebook	United States	Financial services	49.4	17.9	Malaysia, Singapore
Twenty-First Century Fox	United States	Metals and mining	48.2	27.3	Malaysia, Philippines, Singapore, Thailand
Tencent Holdings	China	Insurance	47.3	15.8	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
Yahoo	United States	Insurance	45.2	5.0	Indonesia, Malaysia, Philippines, Singapore, Viet Nam
Automatic Data Processing	United States	Telecommunication	43.7	11.7	Singapore
Rakuten	Japan	Food and staples retailing	35.4	5.9	Indonesia, Malaysia, Singapore, Thailand
First Data Corporation	United States	Oil, gas and consumable fuels	34.4	11.5	Brunei Darussalam, Malaysia, Singapore
Thomson Reuters	Canada	Oil, gas and consumable fuels	29.1	12.2	Singapore
Paypal	United States	Metals and mining	28.9	9.2	Singapore
Fidelity National Information Services	United States	Financial services	26.3	6.6	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
CBS	United States	Oil, gas and consumable fuels	23.8	13.9	Indonesia, Singapore
Sky	United Kingdom	Real estate investment	23.5	16.1	Malaysia, Singapore
Viacom	United States	Airlines	22.5	12.5	Indonesia, Malaysia, Singapore
Alliance Data Systems	United States	Metals and mining	22.3	6.4	Singapore
Liberty Interactive	United States	Real estate investment	21.2	10.0	Singapore
eBay	United States	Biotechnology	17.8	8.6	Malaysia, Singapore
Priceline Group	United States	Containers and packaging	17.4	9.2	Singapore
Naspers	South Africa	Commercial services and supplies	16.7	5.9	Malaysia, Singapore, Thailand, Viet Nam
Discovery Communications	United States	Road and rail	15.9	6.4	Malaysia, Singapore
VMware	United States	Metals and mining	15.7	6.6	Indonesia, Malaysia, Philippines, Singapore, Thailand
Expedia	United States	Construction materials	15.5	6.7	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
News Corporation	United States	Chemicals	15.5	8.3	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
Nielsen Holdings	United Kingdom	Health care	15.3	6.2	Malaysia, Myanmar, Singapore
Activision Blizzard	United States	Commercial services	15.2	4.7	Singapore

Sources: Based on *World Investment Report 2017* and Orbis.

Note: Rakuten (Japan) reduced its presence in the region by selling off its assets in the e-commerce marketplace in Indonesia, Malaysia and Singapore to other e-commerce companies in 2016. In Thailand, it sold Tarad.com to a Thai company. However, it continues to operate in the region in other digital businesses such as Rakuten Travel, Viber and Rakuten Ventures and maintains its regional headquarters in Singapore. Rakuten looks for new opportunities for growth and plans to introduce Rakuma, a consumer-to-consumer marketplace mobile application, in the region.

Table 3. The top 50 most funded digital start-ups in ASEAN, 2018

Rank	Name	Home country	Industry	Funding raised	Presence in other ASEAN countries
1	Grab	Singapore	Transport, food delivery and payment solutions	\$5.8 billion	Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam
2	Sea (Garena)	Singapore	Consumer Internet platform	\$2.0 billion	Indonesia, Philippines, Malaysia, Thailand, Viet Nam
3	Tokopedia	Indonesia	Online marketplace	\$1.1 billion	None yet
4	Jobstreet	Malaysia	Recruitment	\$586 million	Indonesia, Philippines, Singapore, Viet Nam
5	Go-Jek	Indonesia	Transport	\$585 million	In the process of expanding to other ASEAN countries
6	Traveloka	Indonesia	Travelling	\$500 million	Malaysia, Philippines, Singapore, Thailand, Viet Nam
7	AirTrunk	Singapore	Wholesale data centres	\$307 million	None yet
8	Bigo	Singapore	Broadcasting, digital media	\$272 million	Malaysia, Thailand
9	iflix	Malaysia	Entertainment industry, video streaming	\$223 million	Philippines, Singapore, Thailand
10	Trax Image Recognition	Singapore	Image recognition	\$208 million	Malaysia
11	MatahariMail	Indonesia	E-commerce platforms	\$142 million	None yet
12	Carousell	Singapore	Marketplace	\$120 million	Indonesia, Malaysia and Philippines
13	MyRepublic	Singapore	Telecommunications	\$112 million	Indonesia
14	PT Indo Lotte Makmur (iLOTTE)	Indonesia	E-commerce platforms	\$100 million	..
15	HOOQ	Singapore	Digital	\$95 million	Indonesia, Philippines, Thailand
16	Ninja Logistics (Ninja Van)	Singapore	Postal and courier services	\$87 million	Indonesia, Malaysia, Philippines, Thailand, Viet Nam
17	TenX	Singapore	Fintech	\$81 million	None yet
18	Tessa Therapeutics	Singapore	Biopharmaceuticals	\$80 million	Malaysia
19	SunSeap	Singapore	Clean energy	\$80 million	Cambodia, Malaysia, Philippines, Thailand, Viet Nam
20	Zilingo	Singapore	Marketplaces, mobile commerce	\$79 million	Indonesia, Malaysia, Thailand
21	M17 Entertainment	Singapore	Social media platforms	\$75 million	Indonesia, Malaysia
22	Carro	Singapore	Car marketplace	\$72 million	Indonesia, Thailand
23	Mobile Credit Payment	Singapore	Payments and remittance	\$67 million	Indonesia, Malaysia and Thailand
24	aCommerce	Thailand	E-commerce for tools and services	\$65 million	Indonesia, Malaysia, Philippines and Singapore
25	MOL (Money Online)	Malaysia	Payments and remittance	\$61 million	Indonesia, Philippines, Singapore, Thailand, Viet Nam
26	Qtum	Singapore	Enterprise application	\$52 million	..
27	KyberNetwork	Singapore	Fintech	\$52 million	..
28	Advance.AI	Singapore	Cybersecurity	\$50 million	Indonesia
29	Singapore Life (Singlife)	Singapore	Insurance tech	\$50 million	..
30	Art of Click	Singapore	Mobile advertising	\$45 million	Indonesia, Philippines, Thailand
31	oBike	Singapore	Transportation	\$45 million	Indonesia, Malaysia, Thailand
32	Tiki.vn	Viet Nam	Retail, e-commerce	\$44 million	None yet
33	PT MCash Integrasi	Indonesia	Internet of Things	\$43 million	None yet
34	aelf	Singapore	Cloud infrastructure	\$40 million	..
35	Cogito	Philippines	Cloud infrastructure, SAS	\$37 million	Singapore
36	iCar Asia	Malaysia	Transport	\$37 million	Indonesia, Thailand
37	Wanchain	Singapore	Fintech	\$36 million	None yet
38	Pundi X	Indonesia	Payments and remittance	\$35 million	Singapore
39	Frontier Digital Ventures	Malaysia	Classifieds	\$34 million	Myanmar, Philippines, Viet Nam
40	Funding Societies	Singapore	Fintech	\$32 million	Indonesia, Malaysia
41	Paktor	Singapore	Online dating, social networking	\$32 million	None yet
42	Republic Protocol	Singapore	Fintech	\$31 million	None yet
43	Zimplistic (Rotimatic)	Thailand	Consumer electronics, robotics	\$30 million	..
44	Pomelo Fashion	Thailand	Fashion, e-commerce platforms	\$30 million	Indonesia, Singapore
45	FinAccel (Kredivo)	Indonesia	Fintech	\$30 million	Singapore
46	Cloud Alliance	Singapore	Development platforms	\$30 million	..
47	Electrify	Singapore	Energy efficiency	\$30 million	Malaysia, Philippines, Thailand
48	tryb	Singapore	Fintech	\$30 million	..
49	C88 (CekAja, eCompareMo, Premiro)	Singapore	Fintech	\$28 million	Indonesia, Philippines
50	Sale Stock	Indonesia	Fashion	\$27 million	Singapore

Sources: Tech-in-Asia database (extracted August 2018) and company websites.

This capital is unevenly distributed. Three companies – Grab (Singapore), Sea Ltd (Singapore) and Tokopedia (Indonesia) – have absorbed about 65 per cent of the total. These are three of the five “unicorns” – start-ups valued at more than \$1 billion – currently based in the region. Asian technology companies are particularly active investors in ASEAN start-ups. **These top 50 start-ups are also rapidly expanding beyond their home countries to scale up and benefit from network effects. Some 64 per cent have a presence in at least one other ASEAN country, with 34 per cent in three countries or more, even though many of these companies are only a few years old.** Almost half of these start-ups are involved in either e-commerce or fintech, with the rest operating in areas such as entertainment, marketing, social media, logistics and food delivery.

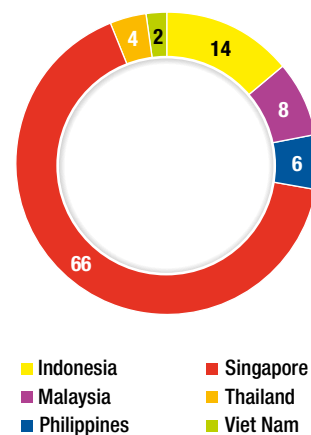
The fintech industry is growing rapidly in ASEAN and had raised \$3.2 billion worth of capital as of 2017 – about 40 per cent of all start-up funding in the region. The 50 most funded ASEAN fintech companies alone raised over \$1.1 billion as of 2017 (or 34 per cent of all fintech start-up funds raised as of last year), attracting interest from venture capital firms from the region, United States, Japan, China and Europe. Fintech investments in ASEAN rose annually from \$190 million in 2015, to \$252 million in 2016 and \$338 million in September 2017. The fintech sector remains concentrated, in terms of both activity and home base. Of the largest 50 most funded fintech companies, a majority operates in the payment and remittance segment; lending, loans and credit are the second most important area. The fintech industry is heavily concentrated geographically, with a majority based in Singapore, a pattern observed for start-ups in all sectors (figure 4).

Many foreign fintech companies have expanded in the region. Transferwise (United Kingdom), Stripe (United States), Avaloq (Switzerland), Ripple (United States), Strands (Spain) and TradelX (United Kingdom) all operate in ASEAN, contributing to the growing competitiveness of the industry. Asian fintech companies such as from China, Japan and the Republic of Korea are also increasing their investment in the region.

Venture capital companies

Foreign and ASEAN venture capital is a crucial source of support to the digital ecosystem. They provide early funding for start-ups, also enabling their subsequent expansion and internationalization. Although the venture capital industry in ASEAN is still small compared to that in China or the United States, opportunities in the region’s digital industry are attracting more foreign firms and supporting the

Figure 4. The top 50 most funded fintech start-ups in ASEAN, by country of origin, 2017 (Per cent)



Source: Based on table 4.9.

expansion of ASEAN-based funds. **The top 50 most active VC companies in terms of investments made in the region are from ASEAN (mostly Singapore), China, Japan and the United States.**

Traditional companies

Many traditional companies in ASEAN (small and large) are responding by participating, innovating and venturing into emerging digital businesses. They are taking advantage of digital opportunities in generally one of four ways. They set up a digital division and digitize internal systems and procedures to improve efficiency. They use digital technology (e.g. e-commerce platforms and apps) as marketing tools (e.g. Salim and Aboitiz) and to support market expansion (e.g. Lippo through MatahariMall, Ayala Corp through Zalora and Charoen Pokphand through Makroclick). Some firms innovate or invest in new business areas such as in fintech (e.g. CIMB, Lippo and Ayala Corp). They establish digital start-ups (e.g. Charoen Pokphand and Ayala Corp) and/or invest in third-party digital start-ups (e.g. Triputra and JG Summit), either directly or by setting up investment funds (e.g. Singtel through Innov8, Axiata through Axiata Digital Innovation Fund, Charoen Pokphand through Ascend and Lippo through Venturra Capital). Finally, as in the case of traditional ASEAN telecommunication MNEs, they invest and diversify their business to include more data-centric operations, digital solutions and downstream activities that uses their telecommunication infrastructure and services.

Many of the large traditional MNEs, conglomerates or business groups, such as Axiata, Ayala, Charoen Pokphand, JG Summit, Kuok, Lippo, San Miguel, Siam Cement and Singapore Telecommunication, are well placed to make the most of digital opportunities because of their significant resources, diversified skills and extensive business networks. In some cases, they also invest in financing digital start-ups or are themselves venture capitalists. **ASEAN MSMEs are also using digital technology to expand their market reach, to improve efficiency, innovate and grow. They are increasingly using third-party platforms to support their traditional businesses, and some MSMEs are starting digital businesses to serve niche markets, such as connecting with other traditional MSMEs, as well as with the unserved and the unbanked – forging a link between digital and traditional MSMEs.**

The prospect for FDI in the digital economy in ASEAN is promising because of a number of reasons. **The rapidly growing Internet economy, high mobile phones penetration, the ambition of ASEAN countries to develop a competitive digital hub and supportive government policy are key factors.** In addition, although e-commerce has grown by an average of 23 per cent a year over the past five years, it still accounts for less than 2 per cent of total retail sales in the region. The number of retail stores per capita in the region is only one third of that in the United States. The size of the e-commerce market in ASEAN accounts for less than 1 per cent of the global total, compared with 32 per cent in China; this is well below ASEAN's share in world population size and GDP, which suggests that there is significant room for growth in the sector. The growing number of middle-income consumers and the benefit of economies of scale in an integrating ASEAN of 640 million people are also major drivers.

Although significant investment in telecommunication infrastructure in the region has resulted in mobile broadband availability above 80 per cent, gaps still remain, requiring sustained local and foreign private investment in digital infrastructure. **The increase in the number of start-ups is making ASEAN an attractive hotbed for venture capital and encouraging the establishment of more start-ups, strengthening further the region's digital economy.**

INVESTMENT AND DIGITAL DEVELOPMENT POLICIES IN ASEAN

ASEAN countries have been actively promoting and fostering an enabling environment for investment in the digital economy. They have done so by developing national digital plans, adopting policies and measures to facilitate and encourage investment in relevant sectors, and moving towards further regional integration and cooperation on digital connectivity.

Most ASEAN Member States have developed digital development strategies. They have been liberalizing their telecommunication industries and are actively promoting private investment in the development of infrastructure for ICT to expand broadband coverage and upgrade telecommunication technology. They have plans and initiatives to attract investments in e-commerce, e-payment solutions and other areas of the digital ecosystem. In particular, they have adopted policies (e.g. tax incentives, skill development programmes, e-government systems, public investment, and laws and regulations related to cybersecurity and data protection) and established institutions to stimulate investment in digital industries.

Regional efforts towards greater coherence and deeper integration are advancing the region towards a more connected digital market, facilitating cross-border commerce. Regional cooperation on ICT was initiated in the 1990s, and an e-ASEAN Framework Agreement adopted in 2000. Since then, regional cooperation on digital matters has further strengthened with the adoption of the ASEAN Framework on Personal Data Protection, the ASEAN Framework on Digital Data Governance, a series of five-year ASEAN ICT Master Plans and a Work Programme on Electronic Commerce 2017–2025, which includes the development of an ASEAN e-commerce agreement.

A number of policy challenges remain. First, national strategies across the ASEAN Member States show different levels of granularity and institutional set-up. Some countries have taken a more forceful approach in steering digital development, and in creating digital awareness and trust. The more effective approach appears to be the designation of a single agency or ministry as being responsible for the implementation of the digital plan to ensure leadership and accountability. It is also important to establish clear and simple targets against which progress can be measured.

Second, ASEAN countries' digital economies are at different stages of development, and policies, laws and regulations vary significantly. Some members are already implementing comprehensive strategies including the development of digital industries, while others are at the early stage of digital development and are focusing on building digital

infrastructure. The sharing of experiences and best practices on digital development at the regional level can be useful to the least developed ASEAN members to develop and attract investment into the digital economy.

Third, across the region the development of e-commerce suffers from a skills shortage, from a relatively low trust in online transactions and from logistical bottlenecks, including in delivery and payment systems. Targeted policies to attract investment in logistical services and digital solutions can help in tackling the bottlenecks but complementary policies will be needed to alleviate the skills and trust shortfalls.

Finally, national and regional policies need to carefully manage the digital revolution's potential downsides, such as the impacts of growing e-commerce on traditional retail and other industries. Policies to promote investment in digital development, which tend to address investor interests, should be balanced with measures that also address public policy concerns.

Annex table 1. Top 100 non-financial ASEAN MNEs with presence in ASEAN, 2010 and 2017 (Millions of dollars)

Rank	Name	Head- quarters	Industry	Cash or near cash item		Total asset		No. of subsidiaries in other ASEAN countries		Subsidiaries in selected ASEAN countries (2017)
				2010	2017	2010	2017	2010	2017	
1	PTT	Thailand	Oil, gas and consumable fuels	4,504	5,102	40,766	68,535	5	9	Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Viet Nam
2	CapitalLand	Singapore	Real estate management and development	5,450	4,548	24,844	45,972	5	5	Indonesia, Malaysia, Philippines, Thailand, Viet Nam
3	Wilmar International	Singapore	Food products	1,080	2,148	34,091	40,933	4	7	Brunei Darussalam, Indonesia, Myanmar, Malaysia, Philippines, Thailand, Viet Nam
4	Singapore Telecommunications	Singapore	Diversified telecommunication	2,173	382*	31,171	34,580*	5	8	Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand, Viet Nam
5	Tenaga Nasional	Malaysia	Electric utilities	2,659	1,184	24,180	33,254	1	1	Indonesia
6	Top Frontier Investment Holdings	Philippines	Industrial conglomerate	..	4,132		29,941	5	5	Indonesia, Malaysia, Singapore, Thailand, Viet Nam
7	San Miguel	Philippines	Industrial conglomerate	2,858	661	18,945	27,597	5	5	Indonesia, Malaysia, Singapore, Thailand, Viet Nam
8	Genting	Malaysia	Hotel, restaurant and leisure	4,725	7,262	15,919	23,048	4	5	Indonesia, Philippines, Singapore, Thailand, Viet Nam
9	Keppel Cor	Singapore	Industrial conglomerate	3,308	1,701	15,942	21,033	5	6	Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam
10	Ayala	Philippines	Diversified financial services	1,213	1,285	7,200	20,434	5	6	Indonesia, Malaysia, Myanmar, Singapore, Thailand, Viet Nam
11	Frasers Property	Singapore	Real estate management and development	723	1,776	7,266	19,911	1	4	Indonesia, Malaysia, Thailand, Viet Nam
12	PTT Exploration & Production	Thailand	Oil, gas and consumable fuels	1,980	1,517	10,694	19,284	3	5	Cambodia, Indonesia, Malaysia, Myanmar, Thailand, Viet Nam
13	SM Investments	Philippines	Industrial conglomerate	1,529	1,487	9,301	19,205	0	5	Indonesia, Malaysia, Singapore, Thailand, Viet Nam
14	LT Group	Philippines	Industrial conglomerate	25	3,481	298	18,345	0	1	Singapore
15	Charoen Pokphand Foods	Thailand	Food products	257	705	4,182	18,221	6	5	Cambodia, Lao PDR, Malaysia, Philippines, Viet Nam
16	Singapore Airlines	Singapore	Airlines	5,899	2,421*	19,477	17,700*	5	5	Indonesia, Malaysia, Philippines, Thailand, Viet Nam
17	Siam Cement	Thailand	Construction materials	2,117	1,349	11,914	17,604	8	8	Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Viet Nam
18	YTL Corporation	Malaysia	Multi-utilities	4,056	3,099	15,995	17,374*	3	3	Indonesia, Singapore, Thailand
19	Sembcorp Industries	Singapore	Industrial conglomerate	2,717	2,010	8,486	17,367	3	4	Indonesia, Myanmar, Philippines, Viet Nam
20	Axiata Group	Malaysia	Wireless telecommunication	2,039	1,661	12,374	17,214	4	5	Cambodia, Indonesia, Myanmar, Singapore, Thailand
21	Olam International	Singapore	Food and staples retailing	710	1,486	10,241	16,683	4	5	Indonesia, Lao PDR, Malaysia, Thailand, Viet Nam
22	Sime Darby	Malaysia	Industrial conglomerate	1,628	482*	14,206	15,745*	8	8	Brunei Darussalam, Cambodia, Indonesia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
23	JG Summit Holdings	Philippines	Industrial conglomerate	961	1,087	7,450	14,791	4	6	Indonesia, Malaysia, Myanmar, Singapore, Thailand, Viet Nam
24	UOL Group	Singapore	Real estate management and development	244	611	6,158	14,682	6	6	Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam
25	Telekomunikasi Indonesia	Indonesia	Diversified telecommunication	1,016	1,851	11,109	14,607	2	2	Malaysia, Singapore
26	City Developments	Singapore	Real estate management and development	1,460	2,825	10,879	14,592	4	4	Indonesia, Malaysia, Thailand, Philippines
27	True Corp	Thailand	Diversified telecommunication	151	560	3,790	14,286	0	1	Singapore
28	PTT Global Chemical	Thailand	Chemicals	698	1,333	13,549	13,354	3	4	Indonesia, Malaysia, Singapore, Viet Nam
29	Ayala Land	Philippines	Real estate management and development	411	420	2,778	11,482	0	1	Malaysia
30	YTL Power International	Malaysia	Multi-utilities	2,379	2,081	11,680	11,283*	2	2	Indonesia, Singapore
31	CP All	Thailand	Food and staples retailing	521	887	1,589	11,062	1	3	Cambodia, Myanmar, Viet Nam
32	DRB-Hicom	Malaysia	Automobile	2,559	887*	9,352	9,908*	4	5	Cambodia, Indonesia, Myanmar, Singapore, Thailand
33	Abolitz Equity Ventures	Philippines	Industrial conglomerates	596	1,298*	3,995	9,846	0	2	Singapore, Viet Nam

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Annex table 1. Top 100 non-financial ASEAN MNEs with presence in ASEAN, 2010 and 2017 (Millions of dollars)

Rank	Name	Head- quarters	Industry	Cash or near cash item		Total asset		No. of subsidiaries in other ASEAN countries		Subsidiaries in selected ASEAN countries (2017)
				2010	2017	2010	2017	2010	2017	
34	Berli Jucker	Thailand	Food and staples retailing	41	134	918	9,673	5	6	Cambodia, Lao PDR, Malaysia, Myanmar, Singapore, Viet Nam
35	IHH Healthcare	Malaysia	Health care services	..	1,497	..	9,584	2	5	Brunei Darussalam, Indonesia, Myanmar, Singapore, Viet Nam
36	PLDT (Philippine Long Distance Telephone)	Philippines	Wireless telecommunication	837	658	6,343	9,190	1	2	Malaysia, Singapore
37	Advanced Info Service	Thailand	Wireless telecommunication	347	327	3,229	8,721	0	1	Singapore
38	Indorama Ventures	Thailand	Chemicals	49	211	2,585	8,669	3	3	Indonesia, Malaysia, Singapore
39	Thai Airways International	Thailand	Airline	1,250	468	9,836	8,620	0	1	Singapore
40	Banpu	Thailand	Oil, gas and consumable fuels	563	685	6,405	8,251	3	3	Indonesia, Lao PDR, Singapore
41	Petronas Chemicals Group	Malaysia	Chemicals	2,916	1,643	9,560	8,190	1	3	Indonesia, Thailand, Viet Nam
42	Golden Agri-Resources	Singapore	Food products	218	126	10,114	8,138	2	2	Indonesia, Malaysia
43	CapitalLand Mall Trust	Singapore	Equity real estate investment	555	391	6,331	7,859	5	7	Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand, Viet Nam
44	IOI Properties Group	Malaysia	Real estate management and development	..	553*	..	7,823*	1	1	Singapore
45	Lopez Holdings	Philippines	Independent power	173	844	1,617	7,762	2	2	Indonesia, Thailand
46	Sapura Energy	Malaysia	Energy equipment and services	..	440	..	7,689	0	4	Brunei Darussalam, Indonesia, Singapore, Thailand
47	Indah Kiat Pulp & Paper	Indonesia	Paper and forest products	62	620	5,925	7,634	0	1	Malaysia
48	Genting Malaysia	Malaysia	Hotel, restaurant and leisure	931	1,476	4,802	7,379	0	1	Singapore
49	Malakoff Corporation	Malaysia	Independent power	..	580	..	7,366	0	1	Indonesia
50	First Philippine Holdings	Philippines	Electricity utility	590	830	3,665	7,350	1	2	Indonesia, Thailand
51	Aboltiz Power	Philippines	Independent power	418	714	3,072	7,231	0	2	Singapore, Viet Nam
52	Thai Oil	Thailand	Oil, gas and consumable fuels	438	480	4,881	7,003	2	3	Lao PDR, Singapore, Viet Nam
53	CapitalLand Commercial Trust	Singapore	Equity real estate investment	495	92	4,828	6,998	0	1	Malaysia
54	Sembcorp Marine	Singapore	Machinery	2,271	973	4,113	6,847	1	2	Indonesia, Malaysia
55	SP Sella	Malaysia	Real estate management and development	340	1,374	1,410	6,826	0	1	Singapore
56	Adaro Energy	Indonesia	Oil, gas and consumable fuels	608	1,207	4,521	6,814	1	2	Malaysia, Singapore
57	Petron Corp	Philippines	Oil, gas and consumable fuels	1,004	340	3,694	6,762	2	2	Malaysia, Singapore
58	OUE	Singapore	Real estate management and development	176	400	3,679	6,759	2	2	Indonesia, Malaysia
59	Singapore Technologies Engineering	Singapore	Aerospace & Defense	1,240	747	5,663	6,339	0	1	Thailand
60	Megaworld Corp	Philippines	Real estate management and development	503	329	2,215	6,212	0	1	Singapore
61	Electricity Generating	Thailand	Independent power	257	208	2,224	6,150	2	4	Indonesia, Lao PDR, Philippines, Singapore
62	Telekom Malaysia	Malaysia	Diversified telecommunication	1,133	423	6,749	6,097	1	1	Singapore
63	Thai Beverage	Thailand	Beverage	112	298	2,563	5,833	2	4	Malaysia, Myanmar, Singapore, Viet Nam
64	IRPC	Thailand	Oil, gas and consumable fuels	158	66	3,995	5,666	0	2	Singapore, Viet Nam
65	PPB Group	Malaysia	Food products	300	271	4,526	5,636	4	4	Indonesia, Singapore, Thailand, Viet Nam
66	MMC Corp	Malaysia	Industrial conglomerate	1,319	172	11,844	5,629	0	2	Indonesia, Thailand
67	Globe Telecom	Philippines	Wireless telecommunication	134	224	2,982	5,556	0	1	Singapore
68	First Gen Corp	Philippines	Independent power	201	671	2,341	5,501	0	2	Indonesia, Thailand
69	AirAsia Group	Malaysia	Airline	479	463	4,300	5,337	1	2	Indonesia, Thailand
70	Medco Energi Internasional	Indonesia	Oil, gas and consumable fuels	179	489	2,278	5,161	0	2	Cambodia, Singapore

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Annex table 1. Top 100 non-financial ASEAN MNEs with presence in ASEAN, 2010 and 2017 (Millions of dollars) (Concluded)

Rank	Name	Head- quarters	Industry	Cash or near cash item		Total asset		No. of subsidiaries in other ASEAN countries			Subsidiaries in selected ASEAN countries (2017)	
				2010	2017	2010	2017	2010	2017	2017		
71	Felda Global Ventures Holdings	Malaysia	Food products	..	417	..	5,062	1	4		Cambodia, Indonesia, Myanmar, Singapore	
72	Perennial Real Estate Holdings	Singapore	Real estate management and development	5	84	18	5,016	0	1		Malaysia	
73	Batu Kawan	Malaysia	Chemicals	12	416	1,057	4,981	2	2		Indonesia, Singapore	
74	Berjaya Corp	Malaysia	Industrial conglomerate	425	400*	6,035	4,960*	4	7		Brunei Darussalam, Cambodia, Indonesia, Myanmar, Philippines, Singapore, Thailand	
75	UJM	Malaysia	Construction and engineering	498	485*	4,149	4,721*	3	3		Myanmar, Singapore, Viet Nam	
76	Bumi Amada	Malaysia	Energy equipment and services	89	455	1,557	4,638	1	2		Indonesia, Singapore	
77	Kuala Lumpur Kepong	Malaysia	Food products	407	346	2,971	4,619	2	2		Singapore, Indonesia	
78	Singapore Press Holdings	Singapore	Media	340	230*	3,126	4,499	2	4		Indonesia, Malaysia, Thailand, Viet Nam	
79	Thai Union Group	Thailand	Food products	34	25	2,480	4,491	0	1		Viet Nam	
80	International Container Terminal Services	Philippines	Transportation infrastructure	345	279	1,599	4,371	0	2		Indonesia, Singapore	
81	Boustead Holdings	Malaysia	Industrial conglomerate	138	155	3,010	4,360	3	4		Brunei Darussalam, Indonesia, Myanmar, Singapore	
82	IOI Corp	Malaysia	Food products	351	196	6,514	4,193*	1	1		Singapore	
83	Lippo Karawaci	Indonesia	Real estate management and development	408	187	1,799	4,178	2	3		Malaysia, Myanmar, Singapore	
84	MNC Investama	Indonesia	Media	143	199	1,849	4,160	0	1		Singapore	
85	Ascott Residence Trust	Singapore	Equity real estate investment	103	193	2,185	4,110	3	4		Indonesia, Malaysia, Philippines, Viet Nam	
86	Mapletree Logistics Trust	Singapore	Equity real estate investment	84	66	2,816	4,072	2	2		Malaysia, Viet Nam	
87	Hong Leong Asia	Singapore	Machinery	910	1,020	3,715	3,808	1	1		Malaysia	
88	Gamuda	Malaysia	Construction and engineering	365	135	2,110	3,683	0	2		Singapore, Viet Nam	
89	ComfortDelGro	Singapore	Road and rail	442	446	3,414	3,612	2	2		Malaysia, Viet Nam	
90	Fraser and Neave	Singapore	Food products	1,290	837	10,270	3,608	1	5		Indonesia, Myanmar, Singapore, Thailand, Viet Nam	
91	Semen Indonesia Persero	Indonesia	Construction materials	408	268	1,733	3,603	0	1		Viet Nam	
92	UEM Sunrise	Malaysia	Real estate management and development	142	199	1,290	3,545	0	1		Singapore	
93	Total Access Communication	Thailand	Wireless telecommunication	416	800	3,294	3,515	0	1		Singapore	
94	Bangchak Corp	Thailand	Oil, gas and consumable fuels	302	310	1,937	3,503	1	1		Singapore	
95	Bumi Serpong Damai	Indonesia	Real estate management and development	395	426	1,302	3,382	0	1		Singapore	
96	Wing Tai Holdings	Singapore	Real estate management and development	410	616*	3,035	3,353	2	2		Indonesia, Malaysia	
97	Oxley Holdings	Singapore	Real estate management and development	92	145*	697	3,347	2	4		Cambodia, Indonesia, Malaysia, Myanmar	
98	China Yuchai International	Singapore	Machinery	619	852	2,478	3,320	1	1		Malaysia	
99	Vietnam Rubber Group	Viet Nam	Rubber	265*	265*	3,066*	3,066*	1	2		Indonesia, Malaysia	
100	Berjaya Land	Malaysia	Hotel, restaurant and leisure	120	172*	3,962	3,022*	2	4		Philippines, Singapore, Thailand, Viet Nam	

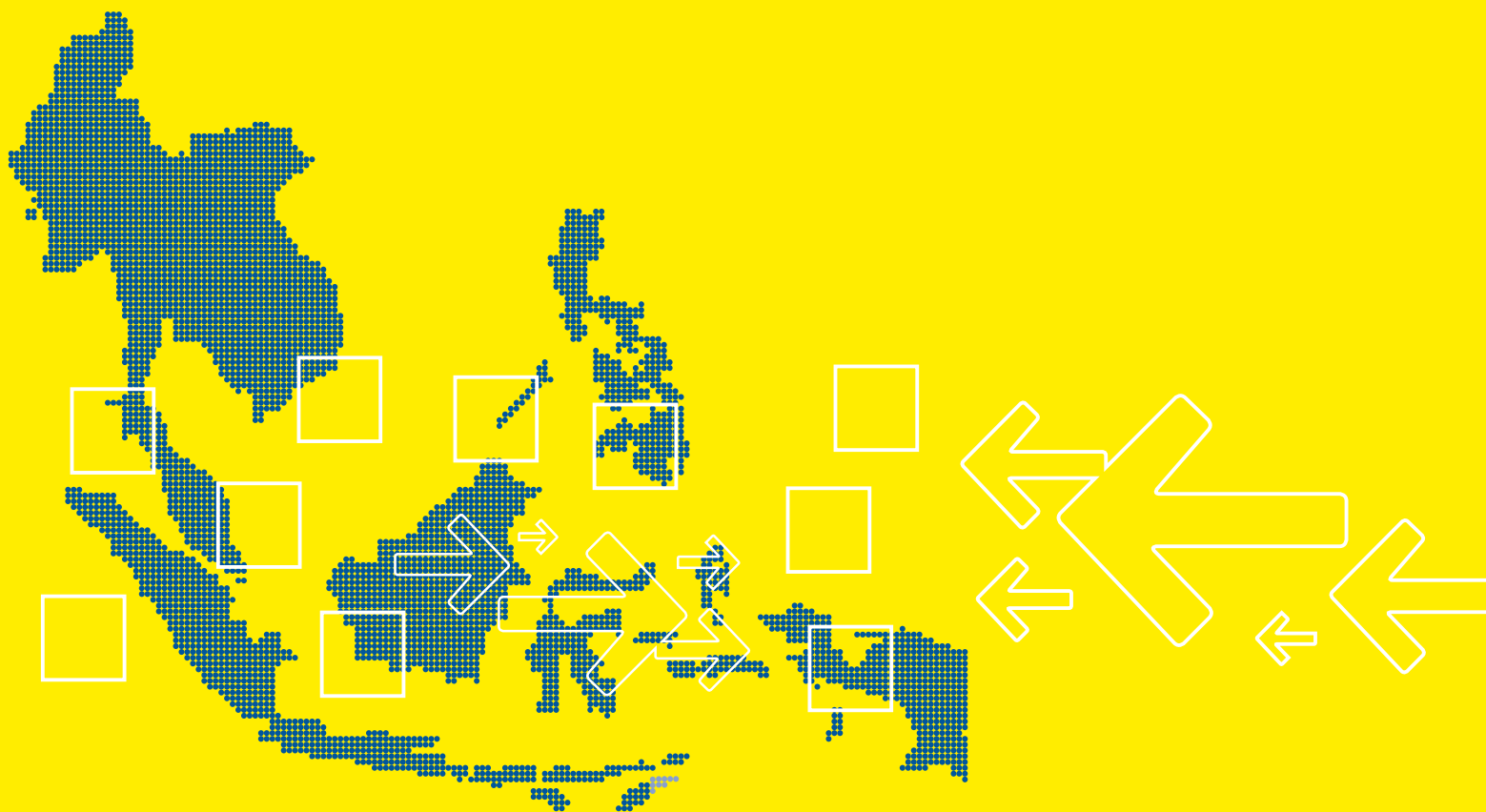
Sources: Bloomberg, annual reports of companies and Orbis.

Note: Ranked by 2017 total asset.

* 2016 number.

PART ONE

FDI AND MNE DEVELOPMENT IN ASEAN



CHAPTER 1

FDI and Corporate Investment Trends

1.1. INTRODUCTION

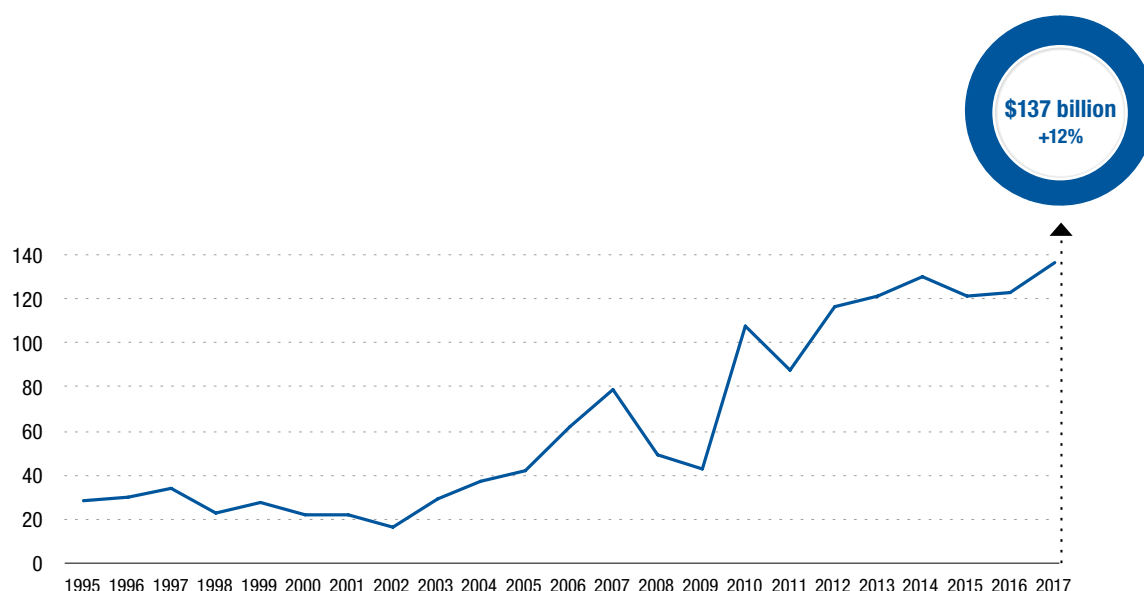
FDI flows to ASEAN rose to a record level in 2017 due to a rise in investments in most Member States. Changes were visible in investment sources, recipients and industry patterns. Intra-ASEAN investment, particularly investment from Singapore, continued its upward trend and remained the largest source of investment in the region. Strong investment in wholesale and retail and in manufacturing activities help pushed up FDI while investment in finance fell.

This chapter examines FDI trends and MNE development in ASEAN in 2017 and the first half of 2018. It highlights the investment activities of foreign and ASEAN MNEs such as their strategies, regionalization and production networks. The chapter also provides analyses of FDI flows in the CLMV countries (Cambodia, the Lao People's Democratic Republic, Myanmar and Viet Nam) and among ASEAN Member States, and concludes with an assessment of investment prospects.

1.2. FDI TRENDS AND DEVELOPMENTS IN 2017–2018

FDI flows in ASEAN rose by 12 per cent from \$123 billion in 2016 to an all-time high of \$137 billion in 2017 (figure 1.1), pushing up ASEAN's share of global FDI flows to developing economies from 18 per cent in 2016 to 20 per cent in 2017, and the region's share of FDI flows to East and Southeast Asia from 31 per cent in 2016 to 34 per cent in 2017.

A number of factors contributed to the rise in 2017. Inflows to eight Member States rose, led by a five-fold increase in FDI into Indonesia, from \$3.9 billion in 2016 to a new record of \$23.1 billion in 2017. The CLMV countries saw a rise in FDI (section 1.3), while flows to Thailand tripled to \$9.1 billion and flows to the Philippines rose by 20 per cent to \$10 billion. Intra-ASEAN investments, the biggest contributor, rose for the second consecutive year to a new high of \$27 billion (section 1.4). Strong investments from China, the Netherlands, Germany, Switzerland and Australia also contributed to the higher inflows last year. Increases in investment in wholesale and retail, manufacturing, real estate and mining all played a role. The value of cross-border M&As in the region rose by 124 per cent to \$16.7 billion (section 1.5). Foreign MNEs and ASEAN companies were active investors in a broad range of industries from manufacturing, services and infrastructure (section 1.6 and chapter 3), and in many cases with multiple investments.

Figure 1.1. FDI flows in ASEAN, 1995–2017 (Billions of dollars)

Source: ASEAN Secretariat, ASEAN FDI database.

In 2017, three Member States (Singapore, Indonesia and Viet Nam) accounted for some 72 per cent of FDI inflows, suggesting a high level of concentration of investments. However, FDI flows are gradually reaching more ASEAN countries; concentration was higher in previous years at 79 per cent annual average for the top three recipients in 2012–2016.

Singapore remained the region's largest recipient, accounting for 45 per cent of total flows in ASEAN, despite a decline from \$77 billion in 2016 to \$62 billion in 2017 which was in part due to an 80 per cent drop in FDI in finance (from \$47.6 billion in 2016 to only \$9.6 billion) (table 1.1). FDI from the European Union and the United States (the two traditional largest investors in Singapore) fell in 2017. The significant decrease of Singapore's share from 63 per cent in 2016 to 45 per cent in 2017 was also due largely to the marked increase in flows to other Member States.

FDI flows to Malaysia also fell. The rise in investment from China, Germany, Japan and the United Kingdom in Malaysia was not sufficient to offset a decline in flows from the United States and Singapore.

FDI into Brunei Darussalam rose from -\$0.2 billion in 2016 to \$0.5 billion, dominated by increased investment from Malaysia. Investment from the United Kingdom declined due to a divestment of -\$553 million, mainly from the oil and gas industries.

The record rise in FDI in Indonesia was led by a surge in investment from Singapore (its largest investor), Japan, the Netherlands and China in manufacturing, wholesale and retail, and other

services. Inflows from Japan were particularly strong, with investments in automotive and other manufacturing activities, while Chinese companies such as Alibaba help pushed up Chinese investment in services (particularly in activities related to the digital economy). The significant rise in investment inflows pushed up Indonesia's share of FDI inflows in ASEAN considerably, from 3.2 per cent in 2016 to 16.8 per cent in 2017.

Table 1.1. FDI flows in ASEAN, by host country, 2010–2017 (Billions of dollars)

	2010	2011	2012	2013	2014	2015	2016	2017
Brunei Darussalam	0.6	1.2	0.9	0.7	0.6	0.2	-0.2	0.5
Cambodia	0.8	0.9	1.6	1.3	1.7	1.7	2.3	2.7
Indonesia	13.8	19.2	19.1	18.4	21.8	16.6	3.9	23.1
Lao PDR	0.3	0.5	0.3	0.4	0.9	1.1	1.1	1.7
Malaysia	9.2	12.0	9.4	12.1	10.9	10.2	11.3	9.4
Myanmar	2.2	2.1	1.4	2.6	0.9	2.8	3.0	4.3
Philippines	1.3	1.8	2.8	3.9	5.8	5.6	8.3	10.0
Singapore	57.2	40.0	59.8	57.5	73.5	62.7	77.5	62.0
Thailand	14.7	2.5	12.9	15.9	5.0	8.9	3.1	9.1
Viet Nam	8.0	7.5	8.4	8.9	9.2	11.8	12.6	14.1
ASEAN	108.2	87.7	116.5	121.7	130.3	121.7	122.8	137.0

Source: ASEAN Secretariat, ASEAN FDI database.

FDI inflows to the Philippines rose for the second consecutive year to \$10 billion – the highest ever recorded inflows, buoyed by a rise in investment in manufacturing and in electricity. Thailand saw a \$6 billion rise in investment contributed by an increase in FDI in finance, wholesale and retail trade, manufacturing and real estate activities. Japan and Singapore were its two largest investors. They accounted for 56 per cent of total inflows in Thailand in 2017. The strong increase in FDI flows pushed up Thailand's share of FDI in ASEAN from 2.5 per cent in 2016 to 6.6 per cent in 2017.

Top 10 investors

Intra-ASEAN investment remained the largest source of FDI, contributing 19 per cent to total inflows. Singapore was the largest investor of all sources with flows rising from \$15.4 billion in 2016 to \$18.3 billion, followed by Japan and China.

The combined share of the top 10 investors in the region declined significantly, from 95 per cent in 2016 to 68 per cent in 2017. This suggests a greater diversification in sources of investment in the region last year.¹ While the composition of the top 10 investors did not change much, there were differences in their order (table 1.2). The significant changes include a more than 100 per cent rise in FDI from the Netherlands, a 71 per cent drop in inflows from the United States and a decline by more than half in flows from the United Kingdom. Luxembourg dropped out of the top 10 while Germany joined the list. Investment from Australia (see chapter 2) and India rose.

Table 1.2. Top 10 investors in ASEAN, 2016–2017 (Billions of dollars and per cent)

Country/region	2016		Country/region	2017	
	Value	Share		Value	Share
ASEAN	25.8	21.0	ASEAN	26.6	19.4
United States	18.8	15.3	Japan	13.2	9.6
Japan	14.1	11.5	China	11.3	8.2
China	11.3	9.2	Netherlands	10.7	7.8
Luxembourg	9.6	7.8	Hong Kong (China)	7.8	5.7
Ireland	9.0	7.3	Ireland	5.8	4.2
United Kingdom	8.7	7.1	United States	5.4	3.9
Hong Kong (China)	8.6	7.0	Korea, Republic of	5.3	3.9
Korea, Republic of	6.5	5.3	United Kingdom	4.0	2.9
Netherlands	4.8	3.9	Germany	2.7	2.0
Total Top 10	117.3	95.5	Total Top 10	92.8	67.8
Other	5.5	4.5	Other	44.2	32.2
Total	122.8	100.0	Total	137.0	100.0

Source: ASEAN Secretariat, ASEAN FDI database.

Industry composition

There were significant changes in the industry pattern of investment in 2017, with wholesale and retail emerging as the largest industry recipient, overtaking finance and manufacturing (the traditional two key recipients). FDI in wholesale and retail rose by 75 per cent to \$38.9 billion (contributed to by the active opening of retail stores, supermarkets, malls and non-store retail trade such as e-commerce activities), and manufacturing saw investment rise by 57 per cent to \$31.6 billion (annex table 1.1). FDI in mining rose marginally to \$4 billion, while FDI in finance and banking dropped to \$15.6 billion, from \$41.4 billion in 2016.

There were differences in the distribution of investments by industry. The 57 per cent rise in investment in agriculture and forestry to \$4.2 billion was mainly due to intra-ASEAN investment. Extractive activities were dominated by investment from the European Union, but United States companies divested some -\$3.2 billion last year. Chevron sold its geothermal assets in Indonesia and the Philippines to the Ayala Group (Philippines) and consortium partners for an estimated \$3 billion.² In manufacturing, intra-ASEAN investment led with \$8.6 billion, followed by investment from the European Union (\$7.6 billion) and Japan (\$6.1 billion). Together they contributed some 70 per cent of FDI flows to the manufacturing industry. The European Union was the largest investor in electricity, followed by Japan, the Republic of Korea and ASEAN. Investment in construction activities was dominated by three sources (China, ASEAN and Japan), which together accounted for about 75 per cent of investment in that industry. China and ASEAN companies were the main investors in real estate, accounting for nearly 50 per cent of inflows. In finance, Hong Kong (China), the United States and ASEAN were the largest investors, while investors from Japan divested -\$2.3 billion.

FDI from Japan declined slightly (from \$14.1 billion in 2016 to \$13.2 billion in 2017), dragged down primarily by a divestment of -\$2.3 billion in finance. As in past years, manufacturing remained the largest target industry for Japanese investments in ASEAN (46 per cent of

Japanese FDI) and rose by 18 per cent to \$6.1 billion. Japanese investment in wholesale and retail trade rose the most (50 per cent), to \$4.3 billion, owing to Japanese retailers opening and building more stores in the region. For instance, Aeon opened a store in Cambodia in 2017 and another in May 2018. The company plans to open 30 more stores in Cambodia by 2020 and 20 more in Viet Nam by 2025. Seven-Eleven (Japan) entered Viet Nam in June 2017 and is opening more stores there.

Most of the United States FDI into the region went to wholesale and retail trade (\$10.2 billion). Investment in finance fell significantly, from \$17 billion in 2016 to \$2.1 billion. Divestments of -\$3.2 billion in mining and -\$5.0 billion in manufacturing contributed to the overall \$13 billion decline in United States FDI in ASEAN. Most of this decline occurred in Singapore (annex table 1.1).

Some 30 per cent of European Union FDI went to manufacturing, the largest target industry, followed by wholesale and retail trade. Last year saw a reverse in European Union investment in manufacturing, from a -\$1.1 billion divestment in 2016 to \$7.6 billion. Investment in mining rose from \$0.8 billion in 2016 to \$3.7 billion, while investment in finance fell significantly. Divestment in finance, to -\$854 million in 2017 (from \$14.6 billion in 2016), drove the \$10.5 billion drop in European Union FDI in ASEAN last year (mainly in Singapore).

FDI from the major Asian economies (with the exception of China) also declined. Investment by Korean MNEs fell in three major industries (manufacturing, wholesale and retail, and finance), primarily in Viet Nam, driving the 18 per cent decline in Korean FDI, to \$5.3 billion. A \$1 billion decline in investment in wholesale and retail trade, and in finance, led to the 10 per cent fall in investment from Hong Kong (China). FDI from Taiwan Province of China fell in most industries, but in particular in manufacturing, wholesale and retail trade, and finance.

A significant rise in Australian investment in wholesale and retail trade (from -\$53 million in 2016 to \$1.6 billion in 2017) and in finance (from -\$385 million in 2016 to \$670 million) pushed up FDI from that country. Most of this investment went to Singapore.

Emerging investment

In addition to the significant rise in investment in wholesale and retail trade witnessed in 2017, there were investments in a few other industries worth monitoring closely because of their potential growth, and impact on economic and social development in the region. These industries include health care, R&D activities, education and e-commerce, including fintech.

Investment in the region's health care industry, which includes private hospitals, medical centres, medical research and development (R&D) facilities and manufacturing of medical equipment in the region, is rising with investment from ASEAN, Australia, the European Union, Japan and the United States companies (box 1.1). Increasing income levels, rising demand for private health care services and a more liberal investment environment in the region are the major FDI determinants. Companies from the region, such as IHH (Malaysia), Bangkok Hospital Group (Thailand), Bumrungrad Hospital (Thailand), Thonburi Hospital Group (Thailand) and Raffles Hospital Group (Singapore), are building and running hospitals in neighbouring countries. Lippo Group (Indonesia) is building hospitals in Myanmar with a joint venture partner.

In 2018, companies from outside the region opened health care facilities in Singapore. Among them, Philips (Netherlands) opened a regional oncology centre with a local partner, Hoya Surgical Optics (United States) opened a research facility to develop solutions for cataracts, and Johnson and Johnson (United States) opened an Asia-Pacific regional headquarters to support its health care business development unit. In 2018, Daewoong Pharmaceutical (Republic of Korea) opened a biotechnology research centre in Indonesia. Australian health care companies, equipment suppliers and hospitals have also established medical facilities or a presence in the region. They include Ramsay Health, Cochlear, Healthscope, Primary Health Care Ltd and Zed Technologies.

Box 1.1. Japanese investment in health care in ASEAN

Japanese investment in the health care industry in ASEAN is small but increasing as interest from different kinds of Japanese companies grows. These companies are opening new hospitals and medical training centres, and producing medical equipment.

Japanese hospitals and health care institutions have partnered with local entities to open medical training centres. For example, Sunrise Japan Hospital established a medical treatment centre in Phnom Penh in 2016. The centre is run by Kitahara Medical Strategies International (Japan). Japanese companies had already established the Thailand Training and Education Centre for endoscopy training in 2016, the Myanmar Breast Cancer Diagnosis Centre in Mandalay in 2015, the Endoscopy Training Centre in Bach Mai Hospital in Viet Nam in 2014, and an endoscopy training centre in Indonesia in 2014. A Japanese endoscope manufacturer, Olympus Cooperation, also established an endoscope training centre in Bangkok in 2016. Another Japanese medical centre is expected to be opened in Ho Chi Minh City by the International University of Health and Welfare. In 2017, Mitsubishi Corporation formed a joint venture in Myanmar to open a hospital in Yangon in 2020.

Major Japanese trading companies with financial resources and experience in internationalization are investing in medical services. Itochu is investing in the Asian health care industry with a large Indonesian conglomerate. JGC Corporation, a major construction company, has invested in and operates an emergency medical treatment centre in Phnom Penh in conjunction with a Japanese medical institution. In 2017, Minebea Mitsumi invested \$25 million in Cambodia to manufacture pharmaceutical and medical equipment and Mani, a medical equipment manufacturer, opened a plant to manufacture dental equipment in the Lao People's Democratic Republic. Minebea Mitsumi also invested in the Philippines.

Drivers and motivations

Aside from the attraction of host-country factors, the saturated market at home is encouraging Japanese medical equipment manufacturers to invest abroad. The experience developed at home in elderly care service is driving Japanese companies' interest in venturing to Asian countries that are also experiencing an increase in elderly care service. Encouragement from government policies have also played a role. For instance, the Japanese Government has encouraged the circulation of human resources and industry development through overseas advancement by private Japanese companies. It established Medical Excellence Japan in 2011 to promote Japanese

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Box 1.1. Japanese investment in health care in ASEAN

medical businesses internationally. Member companies include medical equipment manufacturer (e.g. Canon Medical Systems Corporation, Rim Medical Holdings, Sony Imaging Products and Solutions), consulting firms (e.g. SunFlare Company, Ship Healthcare Holdings, Mediva Inc., Medius Solution), trading companies (e.g. Sojit Corporation, Mitsubishi Corporation) and banks (Mizuho Bank and Sumitomo Mitsui Banking Corporation).

The Government also provides institutional support through the Japan External Trade Organization (JETRO) and related organizations, providing information on health care business in other countries and financial support for feasibility studies on the establishment of hospitals, elderly care centres and medical equipment training centres.

Source: METI.

The rapid development and increase in opportunities in the digital economy in ASEAN has been attracting growing attention from foreign and ASEAN companies and start-ups in the past few years. Many of the 50 highest-funded ASEAN digital start-ups have been actively investing in other ASEAN countries in recent years to establish a more significant presence in those countries and expand their markets (chapter 4). These companies include aCommerce (Thailand), Carousell (Singapore), Go-Jek (Indonesia), Grab (Singapore), Jobstreet (Malaysia) and Pomelo (Thailand). Go-Jek, a start-up that has branched into a portfolio of digital businesses, is expanding rapidly. Tech companies such as Alibaba, JD.com and Tencent (all China) and Amazon (United States) have also been actively investing and expanding in ASEAN. Many fintech start-ups from ASEAN and from outside the region are also expanding rapidly in the region.

1.3. FDI IN CLMV COUNTRIES

Combined FDI flows to the four CLMV countries rose to a record level in 2017, with all countries receiving the highest ever recorded inflows (table 1.3). FDI inflows to these countries increased by 21 per cent to \$23 billion – accounting for 17 per cent of total FDI flows in the region. This rise marks the third consecutive year of growth in the share of FDI flows in ASEAN going to these countries. With flows exceeding \$14 billion, Viet Nam was the third largest recipient within ASEAN and accounted for over 60 per cent of flows to the CLMV countries.

Sources and industry targets vary for the four countries. Cambodia received investment from more diversified sources, with China and ASEAN investors leading. Chinese companies were the overwhelmingly largest investors in the Lao People's Democratic Republic, accounting for more than 77 per cent of investment. In Myanmar, ASEAN remained the largest source of investment (48 per cent), led by companies based in Singapore. Companies from the United States and the European Union were also active investors in Myanmar last year. Japan, the Republic of Korea and ASEAN were the principal investors in Viet Nam, contributing 67 per cent of investment in that host country.

Infrastructure, primarily electricity generation, remained the largest recipient of FDI in the Lao People's Democratic Republic. Finance, real estate and manufacturing dominated inflows in Cambodia. Manufacturing remained the single largest recipient of FDI in Viet Nam, while in Myanmar investors continued to show interest in a wide range of industries (mining, manufacturing and services).

Table 1.3. FDI flows to CLMV countries, 2010–2017 (Millions of dollars)

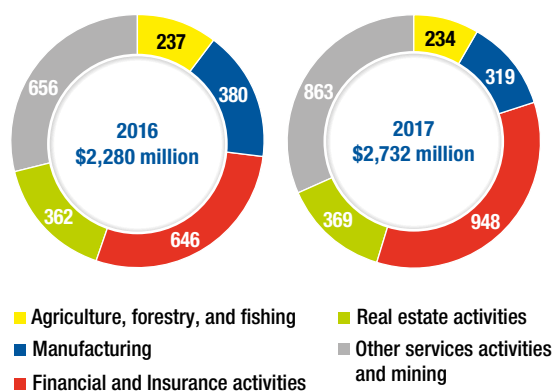
	2010	2011	2012	2013	2014	2015	2016	2017
Cambodia	783	892	1,557	1,275	1,727	1,701	2,280	2,732
Lao PDR	333	467	294	427	913	1,079	1,076	1,695
Myanmar	2,249	2,058	1,354	2,621	946	2,824	2,989	4,341
Viet Nam	8,000	7,519	8,368	8,900	9,200	11,800	12,600	14,100
Total CLMV	11,364	10,936	11,574	13,222	12,786	17,405	18,945	22,868
CLMV share of FDI flows in ASEAN	10.5	12.5	9.9	10.9	9.8	14.3	15.4	16.7

Source: ASEAN Secretariat, ASEAN FDI database.

The rise in FDI into these four countries continued to be dominated by greenfield activities. The low level of M&A transactions (except in Viet Nam) reflects the limited M&A opportunities and less mature M&A environment in these countries. But the number of cross-border M&A deals in Viet Nam remained high – the second most active ASEAN country for M&As, after Singapore – suggesting that MNEs are increasingly using M&As as a channel of market entry to access assets and gain immediate access to market in that host country.

FDI in Cambodia: Significant growth in finance and other services, and increasing real estate investments

Figure 1.2. FDI flows in Cambodia, by industry, 2016–2017 (Millions of dollars)

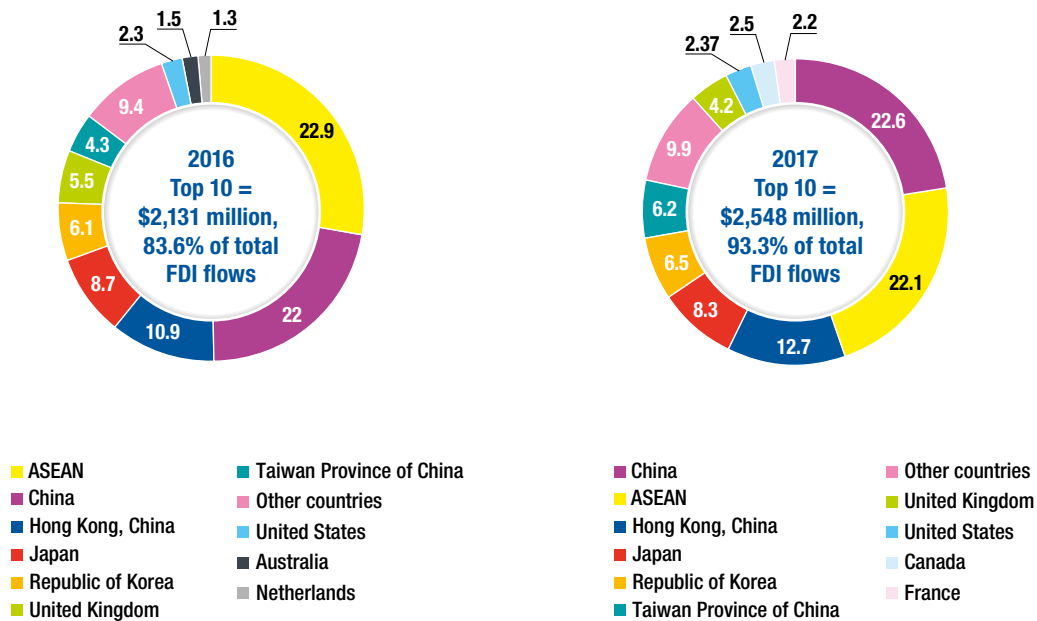


Source: ASEAN Secretariat, ASEAN FDI database.

FDI in Cambodia rose by 20 per cent to \$2.7 billion because of a nearly 50 per cent rise in investment in finance and insurance (\$948 million in 2017) and the growth in investment from most of the top 10 investing countries (figures 1.2 and 1.3). Four industries attracted 80 per cent of inflows in 2017. Finance, other services and real estate dominated, and manufacturing remained an important recipient, despite a 16 per cent decline.

Manufacturing

The manufacturing industry attracted 12 per cent of investment into Cambodia. Traditionally, the industry was the largest recipient, dominated by investment activities in garment production (*AIR 2014*). FDI

Figure 1.3. Cambodia: The 10 largest investors, 2016–2017 (Per cent)

Source: ASEAN Secretariat, ASEAN FDI database.

into this industry has become more diversified and investment in non-garment activities have become more visible. In 2017, Minebea Mitsumi (Japan) expanded its operation in the manufacturing of pharmaceutical and medical equipment with an investment commitment of \$25 million, and Vinamilk (Viet Nam) acquired a 51 per cent stake in Angkor Dairy Products for \$10 million. Kampot Cement (Thailand) started construction of a third cement plant, with production to commence in 2018. Other non-garment investments included Zuellig Pharma (Hong Kong, China), which expanded with a new facility; Sichuan Grand Royal Group (China) and a local partner (Try Pheap Group-Cambodia), which opened a \$20 million motorcycle assembly plant; and Hitachi (Japan), which entered into a joint venture partnership with CMED Group (Cambodia) for the installation and maintenance of elevators and escalators. DKSH Holding (Switzerland) invested in the country through its acquisition of Europ Continents, a producer and supplier of medical equipment in Cambodia and other ASEAN countries.

The non-garment industry continued to attract FDI interest in 2018. For instance, rubber manufacturer Socfin (Luxembourg) started construction of a \$5.7 million processing factory in 2018. Green Leader Holdings Group (Hong Kong, China) began construction of its first

cassava processing plant and Battambang Conch Cement, a joint venture between Conch International Holdings (China) and Battambang KT Cement (Cambodia), opened a \$230 million cement factory.

Garments

Chinese garment companies continued to invest in Cambodia. Hua Cheng Yi Wen Garment built a \$2.5 million factory, Newest Garment started investment in a \$4.2 million factory and Run Yi began establishing an operation estimated at \$2.7 million. Other garment companies that made investments in the country between 2017 and 2018 included Jie Leda Clothing Accessories Factory, Hung Hsing Garment and Y.L Labels (all China); KMCC Company (Thailand), Kyungshin Corporation (Republic of Korea), Meng Yee Garment Manufacturing (Hong Kong, China), He Fong Enterprise (Taiwan Province of China) and Shin Jen Enterprise (Taiwan Province of China). Texhong Textile Group (Hong Kong, China) acquired the Cambodian operation of Chu Hsing Clothes (Hong Kong, China) for \$13 million in 2017.

Services

FDI in services in Cambodia continued to rise, supported by strong investment activities in finance, real estate and other services, including retail. The entry of more foreign banks led to a rise in FDI in banking and finance, as did the decision of the Government to increase the minimum capital requirements of banks. In 2017, Renet Japan Group (Japan) and SBI Holdings (Japan) formed a joint venture to establish Mobility Finance Cambodia, and the Bank of China expanded its operations with new branches in Siem Reap and Sihanoukville. Other foreign banks and finance companies that invested in 2017 included the AIA Group (Hong Kong, China), which opened its first subsidiary; Tokio Marine & Nichido Fire Insurance (Japan), which opened a representative office; Blackwell Global (United Kingdom), which opened an office; and Mizuho Bank (Japan), which opened its first branch in the country. European Union banks (e.g. DEG (Germany), BRED Bank (France)) and ASEAN banks (e.g. Vietcombank (Viet Nam) and Kasikornbank (Thailand)) also expanded their operations in Cambodia. China Investment Corporation acquired Bank of China (Phnom Penh Branch) for \$171 million in 2017. Bank South Pacific (Papua New Guinea) opened its first branch in Cambodia in 2018 through a 50 per cent purchase in RMA Finance (Cambodia).

Fintech companies have also increased their investment in the country. PayAllZ (Malaysia), a mobile payment service, expanded into Cambodia in 2017 through a partnership agreement with Hello Digital (Cambodia). Other fintech companies following suit include World Remit (United Kingdom), with an investment in 2018 to provide mobile banking services, and Alipay (China), an integrated mobile payment application, which expanded into Cambodia, as well as in Myanmar and the Lao People's Democratic Republic.

Strong economic growth has also led to a rise in investment in real estate development, including in industrial estates. Sino Great Wall (China) with Oxley Gem (Singapore) was awarded a \$285 million contract in 2017 to build a 55-storey property. Kerry Worldbridge Logistics (a joint

venture between Malaysia's Kuok Group and Worldbridge International (Cambodia)) started operation of a \$100 million special economic zone. In 2018, ERA Realty Network (United States) expanded into Cambodia.

Other services

In the retail industry, in 2018, jewellery retailer Luk Fook (Hong Kong, China) expanded into Cambodia with a flagship store in Phnom Penh; Jacobs Douwe Egberts (Netherlands) expanded into Cambodia through the acquisition of OldTown White Coffee, based in Malaysia; and Aeon (Japan) opened its second mall in the host country and has plans to build more.

Many digital and internet services firms are also investing in Cambodia due to the increase in smartphone uptake, internet usage and tourism activities. AdAsia Holdings (Singapore) expanded into Cambodia just two months after its expansion into Viet Nam. Innity (Malaysia), a tech company focusing on digital advertising, expanded in 2018 to follow or to be close to clients in Cambodia (e.g. Angkor Beer, Canadian International School, Samsung and Toyota). TGG Takara Gaming Group (Hong Kong, China) also entered Cambodia in 2018.

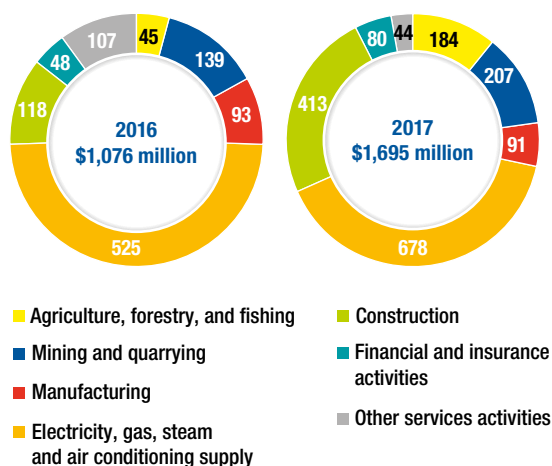
Infrastructure

Foreign firms have been active in infrastructure development, many operating under contractual arrangements as engineering, procurement and construction (EPC) entities, and as equipment suppliers. For instance, Pestech (Malaysia) won a \$100 million contract in 2017 to develop a 230 kV hydropower plant, and Toshiba (Japan) and its subsidiaries TPSC Engineering (Malaysia) and TPSC (Thailand) won a coal power plant contract. General Electric (United States) is supplying boilers and a steam turbine generator to a Toshiba power plant in Sihanoukville. Vinci (France) completed an extension of a water treatment plant in Phnom Penh in 2017; it was also awarded a \$23.5 million water treatment plant contract from the Phnom Penh water authority and another \$10 million contract in Siem Reap. China National Petroleum Corporation started construction of a \$620 million oil refinery, and a consortium of Vinci Group (France) and Muhibbah Engineering (Malaysia) won a contract to build a \$23 million domestic airport terminal at Phnom Penh. Yunnan Investment Holdings (China) secured a 55-year build-operate-transfer concession on an \$880 million airport in Siem Reap. Axiata (Malaysia) formed a strategic alliance with Mitsui (Japan) by selling its 10 per cent stake in Smart Axiata (Cambodia) for \$66 million in 2017. In the shipping industry, Evergreen Marine Corporation (Taiwan, Province of China) in 2018 expanded in Cambodia. B.Grimm Power (Thailand) opened two subsidiaries in that country in 2018.

FDI in the Lao People's Democratic Republic: *Electricity remained the largest recipient, investment in construction activities rose*

FDI in the Lao People's Democratic Republic has been increasing annually since 2012, except in 2016 (when inflows were flat). Inflows rose from \$1.1 billion in 2016 to \$1.7 billion last year, primarily because of an 85 per cent increase in Chinese investment, to \$1.3 billion

Figure 1.4. FDI flows in Lao PDR, by industry, 2016–2017 (Millions of dollars)



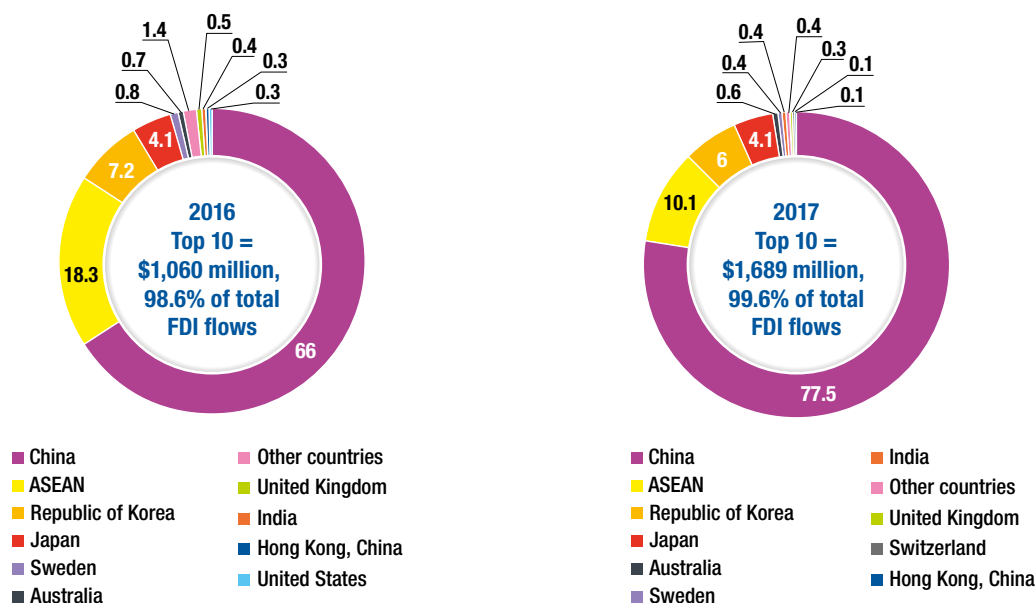
Source: ASEAN Secretariat, ASEAN FDI database.

(figures 1.4 and 1.5). Chinese investment accounted for 77 per cent of inflows. Strong investment in electricity generation, construction and infrastructure also pushed up inflows.

Manufacturing

Japanese and ASEAN companies continued to establish manufacturing plants in the host country. In 2017, Mani (Japan), a medical equipment manufacturer, opened a plant to manufacture dental equipment for export to Viet Nam. VT Greater Pharma, a joint venture between Greater Pharma (Thailand) and Viengthong Pharma (Lao People's Democratic Republic), completed construction of an herbal products factory and Hoang Anh Gia Lai Group (Viet Nam) opened a \$9 million latex processing plant in 2017. In the same year, Siam Cement Group (Thailand) started commercial operation of a cement plant, driven by the need to meet increased demand from the growing construction and infrastructure

Figure 1.5. Lao People's Democratic Republic: The 10 largest investors, 2016–2017 (Per cent)



Source: ASEAN Secretariat, ASEAN FDI database.

activities in the country. In 2018, Vietnam Rubber Group (Viet Nam) started construction of a \$10 million rubber processing factory.

Services

Thai companies actively invested in services industries in 2017, as Kasikornbank further expanded its presence by opening a head office, Major Cineplex Group further increased the number of its cinemas in the country, PTT Public Company (Thailand) opened more petrol stations and Isuzu Motors (Japan) established a service shop to help boost after-sales service for trucks. In 2018, Texas Chicken (United States) opened its second outlet, and Forte Insurance (Cambodia) acquired Toko Assurance Service (Lao People's Democratic Republic), motivated by growth of the insurance industry in the host country. Bosch (Germany) opened a business hub after having previously opened a representative office in the country.

Infrastructure

MNEs continued to be active in infrastructure activities, particularly in power plant development. In 2017, General Electric (United States) opened an office because of the increasing business opportunities in the power industry in the country. Poyry (Finland) won an EPC contract for the 670 MW Nam Theun 1 hydropower plant, with Andritz (Austria) providing equipment such as turbines, generators and control systems. The first power plant of B.Grimm Power (Thailand) in the country became operational in 2017 and the company is opening a second one in 2018 worth \$49 million. Mega First Corporation (Malaysia) participated in the construction of the 260 MW Don Sahong hydropower plant in 2017. Other MNEs involved in infrastructure and power projects included ABB (Switzerland), Posco Engineering and Construction (Republic of Korea), Obayashi (Japan), Kansai Electric (Japan), Kobe Green Power (Japan), Korea Western Power (Republic of Korea) and SK Engineering & Construction (Republic of Korea).

In 2018, Dongfang Electric Corporation (China) won an EPC contract for a 120 MW hydropower plant, its fifth project in the country. Impact Energy Asia (Thailand) is building a \$1.5 billion wind farm, the largest in ASEAN, to become operational in 2019. In 2018, Norinco International Cooperation (China) commissioned the 86 MW Nam Phay hydropower plant, of which it owns 85 per cent with the remaining 15 per cent owned by Électricité du Lao (Lao People's Democratic Republic). Many other power plants are being built by Asian MNEs with target operational years between 2017 and 2020 (table 1.4). These projects also involved many Asian and European subcontractors in engineering and supervisory work.

With the China–Lao People's Democratic Republic railway project planned to be completed by 2021, Chinese companies have been actively involved with construction activities. They include China Railway No. 5 Engineering Group, China Railway International Group, China Railway No. 8 Engineering Group, China Machinery Engineering, China National Electric Engineering Company, China Communications Construction, China Gezhouba Group and China Civil Engineering Construction. A consortium led by IL&FS Transportation (India) won a \$165 million contract for a road development project, and in the mining industry Boart Longyear (United States) started a multi-site drilling project.

Table 1.4. The Lao People's Democratic Republic: Power projects, 2017–2020 (Selected cases)

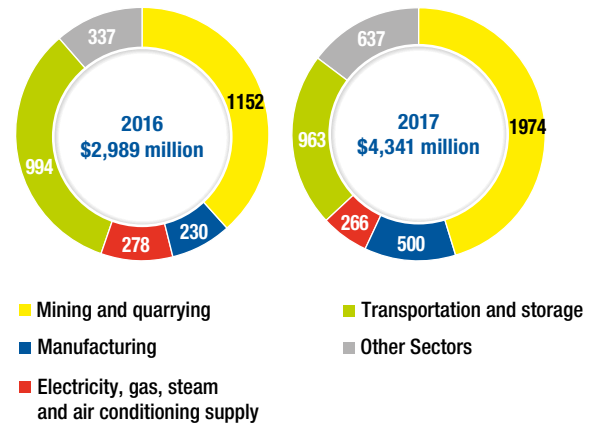
Project	Location	Installed capacity	Investors	Year of operation	Planned market	Remarks
Nam Lik 1	Vientiane	61 MW	- Électricité du Laos (Lao PDR) (20%) - Hydro Engineering (Thailand) (80%)	2017	Lao PDR	Andritz AG (Austria) supplies, erects and commissions electromechanical equipment.
Nam Phay		86 MW	- Électricité du Laos (Lao PDR) (15%) - Norinco (China) (85%)	2018	Lao PDR	Project contractor was Power China Resources (China).
Nam Tha 1	Luangnamtha and Borkeo	168 MW	- Électricité du Laos (Lao PDR) (25%) - China Southern Grid Co (China) (75%)	2018	Lao PDR	..
Xayabouy (Mekong)	Xayabouy Luangphabang	1285 MW	- Électricité du Laos (Lao PDR) (20%) - Ch.Kanchang (Thailand) (30%) - Electricity Generating Public Co (Thailand) (12.5%) - Natee Synergy (Thailand) (25%) - Bangkok Expressway (Thailand) (7.5%) - Others (5%)	2019	Thailand, Lao PDR	SK E&C (Republic of Korea) was awarded the EPC contract. Other subcontractors included KOWEPO (Republic of Korea) for the O&M contract and Ratchaburi (Thailand) for construction supervision. Other MNEs involved are Tractebel Engineering (Belgium), Team Group (Taiwan Province of China), and AF Consult (Sweden).
Xe-Pian Xe-Namnoy	Attapeu and Champasak	410 MW	- LLHSE (24%) - SK Engineering & Construction (Republic of Korea) (26%) - Korea Western Power (Republic of Korea) (25%) - Ratchaburi Electric Generating Holding (25%)	2019	Thailand, Lao PDR	..
Nam Ngiep 1	Bolikhamxay	290 MW	- Lao Holding State Enterprise (25%) - Kansai Electric (Japan) (45%) - Electricity Generating Authority of Thailand International (Thailand) (30%)	2019	Thailand, Lao PDR	IHI Infrastructure Systems (Japan) won the EPC contract, and Obayashi (Japan) is providing civil engineering works.
Nam Pha	Luangnamtha	130 MW	AP Bizlink Group (Malaysia) (100%)	2019	Lao PDR	Toshiba (Japan) is to provide sales and maintenance of hydroelectric equipment.
Nam Phak	Champasak	45 MW	- Électricité du Laos (Lao PDR) (20%) - Kobe Green Power (Japan) (40%) - Other investors (40%)	2020	Lao PDR	..
Nam Ou 1, 3, 4 and 7	Luangphabang Phongsaly	732 MW	- Sinohydro (China) (85%) - Électricité du Laos (Lao PDR) (15%)	2020	Lao PDR	..

Sources: Website of Ministry of Energy and Mines, Lao People's Democratic Republic (accessed in June 2018) and company websites.

FDI in Myanmar: *Extractive industries, manufacturing and transportation services dominate*

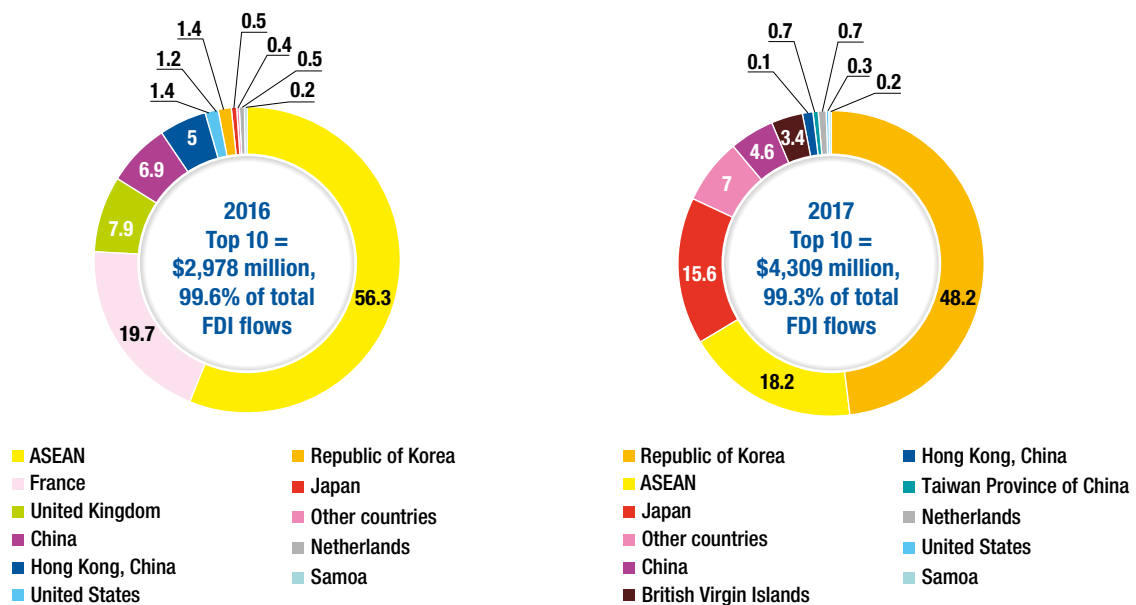
FDI in Myanmar rose by 45 per cent to \$4.3 billion – the third consecutive year of increase. Strong investments from ASEAN and from the United States helped push up inflows (figures 1.6 and 1.7). FDI from these two sources contributed to some 66 per cent of total inflows in the country. Significant increased investment in extractive industries and manufacturing activities further contributed to the rise. Investment in services (transportation, accommodation and real estate) also support further growth in FDI in the country.

Figure 1.6. FDI flows in Myanmar, by industry, 2016–2017 (Millions of dollars)



Source: ASEAN Secretariat, ASEAN FDI database.

Figure 1.7. Myanmar: The 10 largest investors, 2016–2017 (Per cent)



Source: ASEAN Secretariat, ASEAN FDI database.

Extractive industry

Some large-scale extractive FDI activities help pushed up investment in this industry. A consortium led by Total (France) started the Badamyar gas production project in 2017 with partners that include Chevron-Unocal (United States), PTTEP (Thailand) and MOGE (Myanmar). Woodside (Australia) expanded its offshore activities, which resulted in three natural gas discoveries. Ethos Energy (United States) won an \$8 million contract to upgrade the Ywama power plant and Sahakol Equipment (Thailand) was awarded a contract to operate a \$100 million tin mine operation. A number of significant M&A activities in mining took place in 2017. They include the acquisition by Siamgas and Petrochemicals (Thailand) of a 30 per cent interest in a 230 MW power plant for \$48 million, China Polymetallic Mining (China) of Hua Xing Global (China) mining activities and NH-Amudi Asset Management (Republic of Korea) of a gas upstream asset owned by Korea Gas Corporation (Republic of Korea) in the host country. In 2018, Pacific Hunt Energy (Australia) undertook drilling and exploration projects with two local companies and Total (France) started extraction of natural gas in the host country.

Manufacturing

FDI continued to flow to a wide range of manufacturing industries, which included food and beverage, automotive, garments and cement production. In the food and beverage industry, New Hope Liuhe (China) made a \$10 million investment in 2017 for production of animal feed, Agrocrop International (Singapore) opened a rice production and export facility, Acecook (Japan) opened a \$20 million noodle factory and Sahadharawat (Thailand) started to invest in a \$5 million metal packaging plant in the Thilawa Special Economic Zone (SEZ). In the same year, Thai Beverage (Thailand) acquired a majority stake in a local distillery and a supply chain service company for \$742 million. In 2018, De Heus (Netherlands) opened its second feed plant in the country and Trouw Nutrition (Netherlands) opened its first manufacturing unit, with an investment of \$6 million. Nestle (Switzerland) is opening a factory in the end of 2018 to serve the local market. FDI in garments continued to be dominated by Asian investors (table 1.5).

LS Cable & System (Republic of Korea) together with an affiliate started construction of an \$18 million factory in 2017 to produce aerial cables for buildings. Komatsu (Japan) opened a plant the same year to produce equipment to support the host country's growing infrastructure industry. In 2018, Koryo Cable (Republic of Korea) made an \$8.2 million investment to build a cable manufacturing plant. Metal packaging companies Sahadharawat (Thailand) invested \$5.1 million to manufacture metal cans in Myanmar and Soilbuild (Singapore) sets up a plant with an investment of \$13.9 million to produce steel products. In chemicals, BASF (Germany) opened its first manufacturing plant in Myanmar in 2018, producing construction chemicals for the domestic market, while Thailand Central Chemical (Japan–Thailand) opened a fertilizer processing plant and Jotun (Norway), a chemical company, started the construction of a factory to manufacture paint products.

Table 1.5. Myanmar: Foreign garment companies that started operation in 2017 (Selected cases)

Name	Nationality	Industrial zones	Registered investment (\$ millions)
Seduno Knitted	Hong Kong, China	Anawiyatar Industrial zone 2	10.0
Ceres Enterprise Ltd	Taiwan Province of China	Mingalardone Industrial Zone, Yangon	6.9
AIT (Myanmar) Manufacturing	China	Dagon Myothit (East) Township, Yangon	5.3
S.H. United Co Ltd	Taiwan Province of China	Hlaing Thar Yar Industrial Zone, Hlaing Thar Yar Township, Yangon	5.2
New Forest Co Ltd	China	Shwelinpan Industrial Zone, Hlaingtharyar Township, Yangon	4.3
Maisha (Myanmar) Garment	Hong Kong, China	East Dagon Township (Industrial Zone) , Yangon	4.0
China Palette Garment	China	Watayar Industrial Zone, Yangon	3.6
GTIG Hubo Co Ltd	China	Watayar Industrial Zone, Yangon	2.6
U&G (Myanmar) Co Ltd	China	Watayar Industrial Zone, Yangon	2.6
Belle Maison Maple	Hong Kong, China	Tharyargone Block, Tharyargone Village, Bago	2.6
KGG Co Ltd	China	Industrial Zone (2), Dagon Myothi (Port) Township, Yangon	2.6
Myanmar Synergy Garment	Republic of Korea	Industrial zone 2, Hlaing Tharyar Township, Yangon	2.3
Guohua Glory Co Ltd	China	WarTaYar Industrial Zone, ShwePyiThar Township, Yangon	2.3
Guohua Glory Co Ltd	China	Watayar Industrial Zone, Yangon	2.0
Asdet (Myanmar) Garment Co Ltd	China	Shwelinban Industrial Zone, Hlaingtharyar Township, Yangon	2.0
Myanmar Bago NT Mode Garment	Japan	BoKone (18) Block, Bago Township, Bago	2.0
JABP Jaiwei Myanmar Garments	China	Industrial Zone 2, HlaingTharYar Township, Yangon	2.0
Newtop Lotus	China	Industrial zone 2, Hlaing Tharyar Township, Yangon region	2.0
Young Clothing Ltd	Singapore	TharDuKan Industrial Zone, ShwePyiThar Township, Yangon	1.9
Noatex Starry Myanmar Ltd	Singapore	ShweLinPan Industrial Town, HlaingTharYar Township, Yangon	1.8
Sung Bo International	Republic of Korea	Industrial zone 2, Hlaing Tharyar Township, Yangon	1.3
GTIG Easter Garment	China	Watayar Industrial Zone, Yangon	1.2
Amity Lingerie Co Ltd	Hong Kong, China	Inntakaw Industrial Zone, Bago	1.2
Myport	Ireland	Special Zone 2, Oakethar Ward, Bago	1.1
Ming Da Polyester Wadding	China	..	1.0
Kouwa Industry	Japan	Shwe Lin Pan Industrial Zone, Hlaing Thar Yar Township, Yangon	0.6
Myanmode Co Ltd	Republic of Korea	Hlaing Thar Yar Township, Yangon	0.5
Kim So Young Co Ltd	Republic of Korea	ShweLinPan Industrial Town, HlaingTharYar Township, Yangon	0.5
Tianjin Fashion Origin	China	Shwe Lin Pan Industrial Zone, Hlaing Thar Yar Township, Yangon	0.3
Dong Yu Garment Co Ltd	China	Shwelinban Zone, Hlaingtharyar Township, Yangon	..

Source: DICA.

In the automotive industry, Nissan (Japan) and Tan Chong (Malaysia) opened a \$50 million vehicle assembly plant in 2017, and Ford (United States) together with a local partner started assembling cars in a new facility with an initial investment of \$10 million.

In other products, Unilever (Netherlands) formed a joint venture with EAC (Myanmar) in 2017 to manufacture, market and distribute home and personal care products in the country. Nippon Concrete Industries (Japan) and a local partner opened a \$5 million concrete manufacturing facility and Aju Group (Republic of Korea), a construction materials company, started construction of a factory.

Services

Driven by an increase in both regional and global cross-border trade, logistic companies are expanding in Myanmar. In 2017, some foreign logistics companies invested or expanded their operations. They include Yusen Logistics (Japan) and CEVA Logistics (Netherlands). DHL (Germany) invested a further \$114 million to expand its supply chain business, and Nittsu Logistics (Japan) completed construction of a logistics centre. Puma Energy (Singapore) opened a \$92 million petroleum products storage facility and Metro Cash and Carry (Germany) entered into a joint venture with a local partner in 2017. The latter started construction of a warehouse in the Thilawa SEZ last year. In 2018, Yamato (Japan) expanded into the country through offering warehousing, cross-border transport and freight forwarding services.

With increased access to smart phones and the internet, there has also been an increase in the number of digital firms investing in the country. NTT Communications (Japan) opened its first data processing centre in the country last year and Viettel Group (Viet Nam) launched a 4G mobile network in Myanmar in 2018. Ride-hailing taxi companies such as Grab (Singapore) expanded into Myanmar. Fintech investments such as through Ooredoo (Qatar), a mobile payment company, and National Bank of Canada acquired a 22 per cent stake in Ongo (Myanmar), a mobile money service company in 2018.

Infrastructure

JFE Steel Corporation (Japan), Meranti Steel (Singapore), JFE Shoji Trade Corporation (Japan), Marubeni-Itochu Steel (Japan) and Hanwa (Japan), formed a joint venture and was awarded a contract in 2017 to establish a \$85 million steel plant which is to be completed in 2020. In the same year, Punj Lloyd (Turkey) won a contract for the India–Myanmar–Thailand Trilateral Highway and Soilbuild Construction (Singapore) was awarded \$3.9 million for civil and superstructure work. McDermott (United States) and Baker Hughes (United States) won a contract for front-end engineering design for Posco Daewoo (Republic of Korea) offshore project in Myanmar. TTCL, a joint venture between ITD (Thailand) and Toyo Engineering Corporation (Japan), announced plans to invest over \$6 billion in the next few years to establish two coal-fired power plants and LS Cable & System Asia (Republic of Korea) and Gaon Cable (Republic of Korea) started investment to build a \$18 million power cable plant.

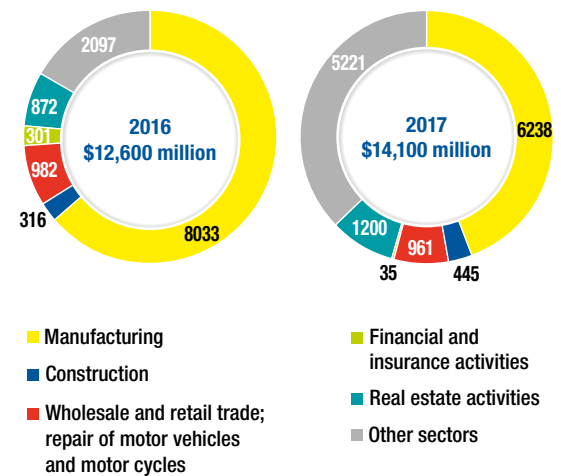
The expansion of the Thilawa SEZ, which involves a consortium of Japanese investors (*AIR 2017*) and companies that started operations in the zone in 2017 (e.g. Nissan-Tan Chong Motor and Nippon Express),³ also contributed to the rise in inflows in the country.⁴

In 2018, Myanmar Railways awarded a \$2.5 billion contract to a consortium comprising Oxley Holdings (Singapore), Sino Great Wall (China) and Min Dhama (Myanmar). In the same year, Sembcorp (Singapore) started operating the country's largest gas-fired power plant (\$300 million) under a 22-year build-operate-transfer agreement.

FDI in Viet Nam: *Still dominated by manufacturing with a surge in investments in electricity, real estate and construction activities*

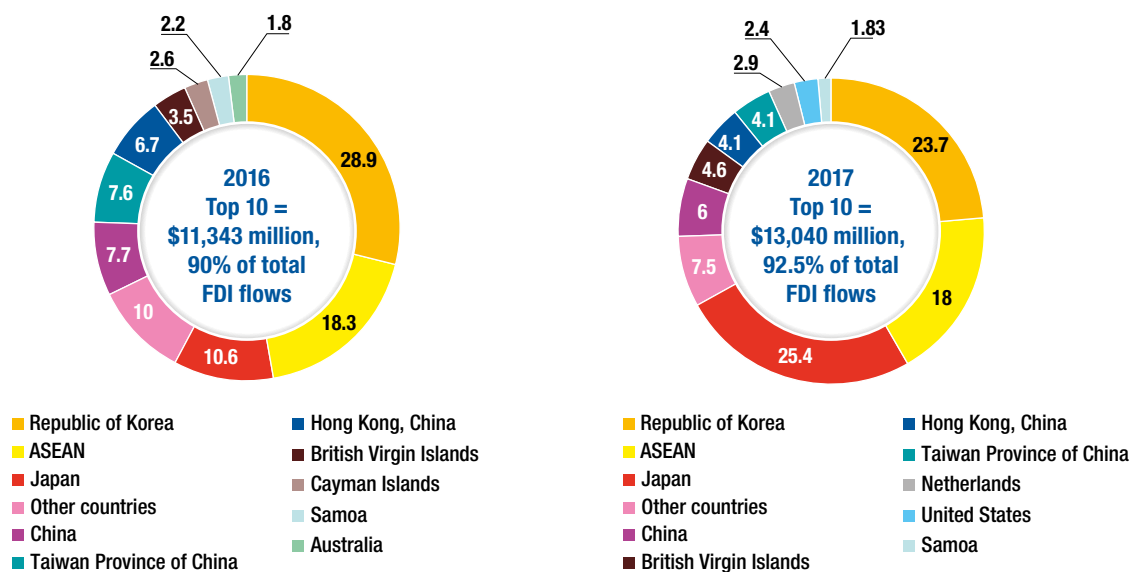
FDI in Viet Nam rose for the sixth consecutive year to \$14.1 billion. Higher inflows from Japan and ASEAN contributed to the increase (figures 1.8 and 1.9). Japan, the Republic of Korea and ASEAN accounted for 67 per cent of investments into the country last year. Japan overtook the Republic of Korea as the largest investor in the host country for the first time since 2014. FDI from the Republic of Korea into Viet Nam declined by 9 per cent to \$3.3 billion in 2017 because of a fall in Korean manufacturing investment. Despite the 22 per cent decline in FDI into manufacturing, this economic sector remained the largest recipient of investment (44 per cent of total inflows). Significant increases in investment in electricity, real estate and construction activities help pushed up FDI flows.

Figure 1.8. FDI flows in Viet Nam, by industry, 2016–2017 (Millions of dollars)



Source: ASEAN Secretariat, ASEAN FDI database.

Figure 1.9. Viet Nam: The 10 largest investors, 2016–2017 (Per cent)



Source: ASEAN Secretariat, ASEAN FDI database.

Manufacturing

Electronics production continued to attract many Asian investors, in particular Korean and Japanese MNEs. In 2017, Hanwha Techwin (Republic of Korea) started building a \$100 million subsidiary to increase manufacturing capacity for its security products (e.g. cameras) for export. GCL System (China), with a local partner, started production of photovoltaic cells with an initial investment of \$33 million, and JA Solar (China) is building a \$1 billion photovoltaic cell factory in the country. In 2018, Daikin (Japan) opened an air-conditioner factory, Showa Aluminium Can Corporation (Japan) opened a second factory and Samsung (Republic of Korea) expanded its production facilities.

In the food manufacturing industry, Nestle (Switzerland) opened its sixth factory in the country, and Ve Wong (Taiwan Province of China) in partnership with Kinh Do (Viet Nam) opened a \$30 million factory to produce instant noodles. Olmix (France) opened its first factory for production of animal feed additives, and Skretting (Netherlands) opened a shrimp feed plant. CBH Group and Interflour Group (both Australia) started a \$70 million malt processing factory in the same year.

Rising demand, cost advantages and regional production networks are driving increasing investment in automotive and components manufacturing in the country. In 2017, automotive component supplier Schaeffler (Germany) started construction of a new plant to increase its manufacturing capacity, and Hyundai Group (Republic of Korea) formed a joint venture with Thanh Cong Group (Viet Nam) to manufacture and distribute commercial vehicles in Viet Nam. Yokowo (Japan) expanded its automotive device production, Shin-Etsu Chemical (Japan) expanded its magnet operation and PSA Group (France) expanded its assembly capacity for Peugeot vehicles. In 2018, Mazda (Japan) opened a \$527 million automotive plant. EDAG (a German engineering service provider) was awarded a contract by VinFast (Viet Nam) to develop the first electric vehicle for the Vietnamese market, while Magna (China) is to provide engineering expertise for the project. In the same year, Mabuchi Motor (Japan) started construction of a motor plant in the country.

In other manufacturing activities, furniture company Rochdale Spears (United States) opened a manufacturing facility in 2017, and Spectre (Denmark) and Lakeland Industries (United States) opened garment factories in 2018. These investments were undertaken primarily for exports.

Foreign and ASEAN companies also invested in manufacturing and other industries through M&As (table 1.6).

Table 1.6. Cross-border M&As in Viet Nam, 2017 (Selected cases)

Ultimate acquiring company	Ultimate acquiring nation	Target company	Target industry	Value (\$ millions)	Shares acquired (%)	Shares owned after (%)
Manufacturing						
GCL System Integration Tech	China	Vina Cell Technology	Primary batteries, dry and wet	..	..	..
Nippon Paper Industries	Japan	Nippon Paper Viet Hoa My JSC	Sanitary paper products	..	65	65
JFE Holdings	Japan	Ton Dong A Corp	Cold-rolled steel sheet, strip and bars	..	0	0
Texhong Textile Group	Hong Kong, China	Nien Hsing Clothes (Viet Nam)	Apparel and accessories, nec	8	100	100
Mitani Sangyo	Japan	Fujitsu Computer Products of Vietnam	Printed circuit boards	15	50	50
TCC Corp	Thailand	Vina Paper	Sanitary paper products	14	100	100
Hyundai Motor	Korea, Republic of	Hyundai Thanh Cong Vietnam Auto Manufacturing	Motor vehicles and passenger car bodies	..	50	50
CJ CheilJedang Corporation	Korea, Republic of	Minh Dat Food	Sausages and other prepared meat products	13	64.9	64.9
Siam Cement	Thailand	Vietnam Construction Materials JSC	Cement, hydraulic	156	100	100
Mitsubishi Corporation	Japan	Vinh Hoan Corp	Prepared fresh or frozen fish and seafoods	15	6.5	6.5
CJ CheilJedang Corporation	Korea, Republic of	Cature Export Goods Processing JSC	Frozen specialties, nec	8	20	20
Solitz	Japan	RangDong Long An Plastic JSC	Plastics materials and synthetic resins	8	20	20
Stripe International Inc	Japan	NEM Group-Apparel Business	Women's and children's clothing and accessories	..	100	100
Landal	Singapore	Halong Canned Food JSC	Canned and cured fish and seafoods	..	5.3	5.3
Hanwa	Japan	SMC Investment Trading JSC	Steel works, blast furnaces, and rolling mills	5	16.5	20
Earth Chemical	Japan	A My Gia JSC	Soap & other detergents, except specialty cleaners	84	100	100
Abolitz Equity Ventures	Philippines	Europe Nutrition JSC	Prepared animal feeds, except for dogs and cats	4	70	70
Abolitz Equity Ventures	Philippines	Vinh Hoan 1 Feed JSC	Prepared animal feeds, except for dogs and cats	4	15	85
Samarang Asset Management	Luxembourg	Petrovietnam Coating JSC	Electroplating, polishing, anodizing and coloring	..	9.9	9.9
Kyoei Steel	Japan	Viet Nam-Italy Steel JSC	Steel works, blast furnaces, and rolling mills	17	20	20
Mc-Bauchemie Muller	Germany	BFI JSC	Industrial organic chemicals, nec	..	30	30
DPC	Korea, Republic of	Nanogen Pharmaceutical BioTechnology	Industrial organic chemicals, nec	20	10	10
Sekisui Chemical	Japan	Tien Phong Plastic JSC	Plastics pipe	..	15	15
Services						
DKSH Holding	Switzerland	Innovative Marketing Actions	Management consulting services	..	100	100
TSL Networks	Korea, Republic of	TSL Networks Vietnam	Arrangement of transportation of freight and cargo	..	100	100
Frontier Digital Ventures	Malaysia	Propzy Vietnam	Prepackaged Software	1	6	6
Bellsystem24 Holdings	Japan	Hoa Sao Group JSC	Commercial nonphysical research	..	49	49
CJ Logistics	Korea, Republic of	Gemadept Shipping Holding	Arrangement of transportation of freight and cargo	..	50.9	50.9
CJ Logistics	Korea, Republic of	Gemadept Logistics Holding	Trucking, except local	..	50.9	50.9
Samarang Asset Management	Luxembourg	Vinh Khanh Cable Plastic Corporation	Drawing and insulating of nonferrous wire	..	7.9	7.9
AQI TYO Hldg	Japan	VF Investment JSC	Management consulting services	..	36	36

/ ...

Table 1.6. Cross-border M&As in Viet Nam, 2017 (Selected cases) (Concluded)

Ultimate acquiring company	Ultimate acquiring nation	Target company	Target industry	Value (\$ millions)	Shares acquired (%)	Shares owned after (%)
Thai Beverage	Thailand	Vietnam F&B Alliance Investment JSC	Management consulting services	..	49	49
Jollibee Foods Corp	Philippines	SuperFoods Group	Eating places	..	10	60
Real estate						
Keppel Corporation	Singapore	Keppel Land Watco I	Land subdividers and developers	37	8.2	53.5
Keppel Corporation	Singapore	Keppel Land Watco II	Land subdividers and developers	..	8.2	53.5
Keppel Corporation	Singapore	Keppel Land Watco III	Land subdividers and developers	..	8.2	53.5
CapitalLand	Singapore	CapitalLand-Thien Duc	Dwelling operators, except apartments	18	30	50
Investor Group	Singapore	Viet Hung Phu Real Estate Business Investment JSC	Real estate investment trusts	39	100	100
Keppel Corp Ltd	Singapore	Keppel Land Watco IV	Land subdividers and developers	..	8.2	76.2
Keppel Corp Ltd	Singapore	Keppel Land Watco V	Land subdividers and developers	..	8.2	76.2
Investor Group	Japan	FCC Infrastructure Investment JSC	Residential construction, nec	..	20	20
Banking and finance						
Credit China FinTech Holding	China	Amigo Technologies JSC	Data processing services	13	51	51
Yuanta Finl Hldg	Taiwan Province of China	The First Securities JSC	Security brokers, dealers, and flotation companies	..	49.2	49.2
Yuanta Finl Hldg Co Ltd	Taiwan Province of China	The First Securities JSC	Security brokers, dealers, and flotation companies	..	6.08	50.8
Shinhan Financial Group	Korea, Republic of	ANZ Bank (Vietnam) Ltd-Retail Banking Business	Banks	..	100	100
Aviva	United Kingdom	VietinBank Aviva Life Insurance	Life insurance	..	50	100
Sumitomo Mitsui Trust Holdings	Japan	BIDV Financial Leasing	Misc business credit	..	49	49
NH Invest & Security	Korea, Republic of	Woori CBV Securities Corp (Woori CBV)	Security brokers, dealers, and flotation companies	..	47.2	96.2
Infrastructure and engineering services						
Yang Xiaodong	China	Vneco1 Electricity Construction JSC	Water, sewer, pipeline & utility line construction	..	6.5	6.5
L & K Engineering	Taiwan Province of China	L & K Engineering Vietnam	Engineering services	..	51	51
Sembcorp Industries	Singapore	Phu My 3 Power	Cogeneration, alternative energy sources	51	33.3	66.7
mTouche Technology	Malaysia	Mobile Asia Vietnam	Communications services, nec	..	100	100
Investor Group	Japan	Southern Star Telecommunication Equipment JSC	Communications services, nec	..	100	100
Rimuss Stiftung	Switzerland	Tan Hoa Water Supply JSC	Water supply	..	10	10
Mining						
SOCO International	United Kingdom	Blocks 125 & 126 Offshore Central Vietnam	Drilling oil and gas wells	..	70	70
Tokyo Gas	Japan	PetroVietnam Low Pressure Gas Distribution JSC	Petroleum and petroleum products wholesalers, nec	..	24.9	24.9

Source: UNCTAD M&A database.

Services

Viet Nam has also seen an increase in MNE activities in the services sector. In the hospitality industry, Rezidor Hotel Group (Belgium) expanded by building a 522-room hotel. Swiss-Belhotel International (Switzerland) has been building more hotels in the country, in both 2017 and 2018. In 2018, Mövenpick Hotels & Resorts (Switzerland) also started construction of a new hotel.

Foreign companies opened more retail stores in the country in 2017–2018. Drinks company Tealive (Taiwan Province of China) and skin-care company G&M Cosmetic (Australia) expanded, as did retailer Lotte (Republic of Korea) and supermarket retailers Aeon (Japan) and Seven-Eleven (Japan). Other services companies that expanded in Viet Nam included BSBG (Dubai), which set up an architectural practice; Preferred Freezer Services (United States), which added 8 million cubic feet of goods storage; and Twill (Netherlands), a digital freight forwarder.

Infrastructure

Asian and European MNEs have actively invested in infrastructure activities. In 2017, Modern Energy Management (Thailand) won the contract to develop the first phase of commercial-scale wind farms being built by Woojin Construction (Republic of Korea), Tra Vinh Wind Power (Viet Nam) and Climate Fund Managers (Netherlands). Keppel (Singapore) won a \$40 million engineering, technology and construction contract for a port development. Japanese MNEs won a number of large projects, which contributed to Japan's strong investment position in the host country that year. They included Marubeni, with a \$2.8 billion power plant project in Nghi Son, and Sumitomo, with a \$2.6 billion power plant project in Khanh Hao Province. Mitsui Oil Exploration was awarded a \$1.3 billion gas pipeline project.⁵ Hyosung Corporation (Republic of Korea) signed a \$1.2 billion contract for natural gas-fuelled polypropylene and liquefied petroleum gas storage, and Hyundai Engineering (Republic of Korea) was awarded a \$320 million contract to build water treatment facilities at a petrochemical complex. European MNEs that have been busy developing infrastructure in Viet Nam include Vinci Construction (France), which won a \$69 million contract to design and build a 10 km water transmission pipeline to supply the centre of Ho Chi Minh City. Bosch Rexroth (Germany) won a contract for the production of 94 hydraulic cylinders and components for 36 hydraulic power units for flood protection. A consortium led by Alstom (France) with Colas Rail (United Kingdom) and Thales (France) secured a metro system contract to be completed by 2021.

In 2018, JGC Corporation (Japan) won an EPC contract to build 49 MW solar plant, SK E&C (Republic of Korea) and Technip (France) signed a contract to develop an ethylene plant worth \$2 billion, and Posco E&C (Republic of Korea) and Vietnam Long Son Petrochemical (Thailand and Vietnam joint venture) started the construction of a \$680 million wharf facility.

1.4. INTRA-ASEAN INVESTMENT AND ENTERPRISE REGIONALIZATION

Intra-ASEAN investment rose by 3 per cent to \$27 billion in 2017; despite fluctuations in some years, it has been on an increasing trend since 2000 (box 1.2). Intraregional investment was the largest source of FDI in 2017, accounting for 19 per cent of total flows into the region. Regional integration, investment opportunities and the expansion of corporate activities continued to drive the growth of intra-ASEAN investments. Some large ASEAN companies (e.g. Axiata (Malaysia), Ayala (Philippines), Keppel (Singapore), Maybank (Malaysia), San Miguel (Philippines) and Siam Cement (Thailand)) expanded into multiple ASEAN countries in 2017–2018 (chapter 3). The internationalization of some start-ups also contributed to the increase in intra-ASEAN investments (chapter 4).

The largest source of intraregional investment came from Singapore (69 per cent), followed by Malaysia and Thailand. Investment from Singapore into the region rose from \$15.4 billion in 2016 to \$18.3 billion in 2017, pushing up intraregional investments to a new height. About 95 per cent of intra-ASEAN investment came from these three countries. However, not all intraregional investment from Singapore is indigenous as foreign MNE subsidiaries based in Singapore also invested through their Singapore operations in other ASEAN countries (*AIR 2016, 2017*). Higher ASEAN investments in Indonesia, Brunei Darussalam, Myanmar and Viet Nam also contributed to the rise.

Indonesia remained the largest recipient of intraregional investment since 2013, and it received more than 45 per cent of intra-ASEAN investments last year (figure 1.10). ASEAN investments into Indonesia rose by 20 per cent to \$11.9 billion in 2017, buoyed by a 28 per cent rise in investment from Singapore to \$10.7 billion. Indonesia, Myanmar and Viet Nam together received more than 62 per cent of intra-ASEAN investments in 2017. ASEAN investments into Singapore, the second largest recipient, dropped by about 40 per cent to \$4 billion.

Investment by Thai companies declined from \$3.3 billion in 2016 to \$2.2 billion in 2017. A decline in M&A purchases and the lack of megadeals by Thai companies contributed to the situation.

ASEAN investors were active in manufacturing, agriculture and three major services industries (real estate, finance, and wholesale and retail trade) last year. Manufacturing remained the largest recipient and a key feature of intra-ASEAN investment (annex table 1.2), rising by 31 per cent to \$8.6 billion, accounting for 33 per cent of intraregional investment. Singapore invested \$6.6 billion in manufacturing activities in the region, the largest target industry for its investors.

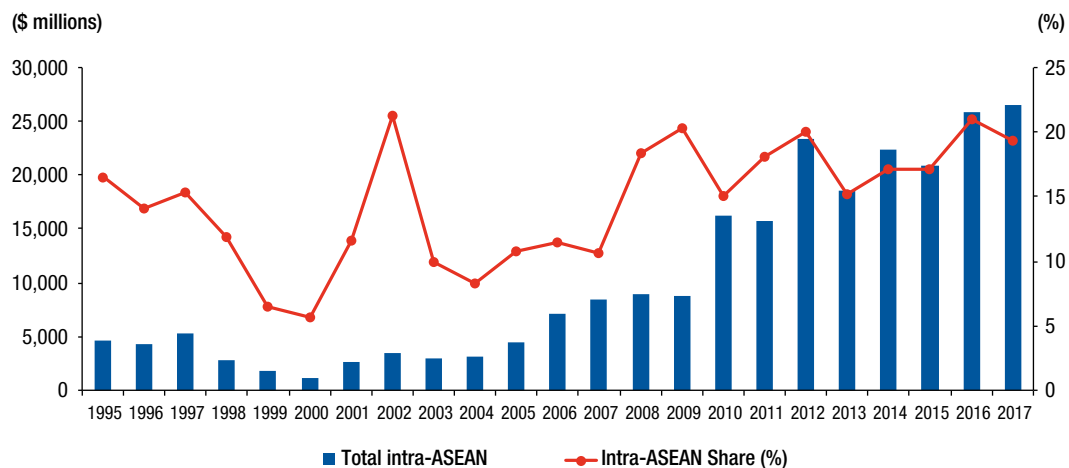
Although intraregional investment in finance and real estate fell, investment in agriculture and wholesale and retail trade rose. In agriculture, companies from Singapore and Malaysia remained active with increasing investment in this industry. They accounted for more than 95 per cent of intra-ASEAN investment in agriculture. The 40 per cent rise in intra-ASEAN investments in wholesale and retail trade, to \$2.5 billion, was due to significant increases in investment from Singaporean and Indonesian companies in e-commerce activities.

Some ASEAN companies made investments in multiple ASEAN countries in 2017–2018. For example, aCommerce (Thailand), Axiata (Malaysia), B. Grimm (Thailand), Central Group (Thailand), Jollibee Foods (Philippines), Kasikorn Bank (Thailand), Keppel Land (Singapore), Maybank (Malaysia), PDZ Holdings (Malaysia), Pilmico International (Philippines), RedDoorz (Singapore), Siam Cement (Thailand) and United Overseas Bank (Singapore) made investments in different industries.

Box 1.2. Rising intra-ASEAN investment since 2000

The aftermath of the 1997–1998 Asian financial crisis (between 1998 and 2000) saw the lowest level of intraregional investment in 2000 (box figure 1.2.1). The crisis weakened the financial capacity of ASEAN companies to internationalize, which affected intraregional investment. Since then, improved financial positions and strong accumulated cash holdings have contributed to ASEAN companies investing in the region. Between 2000 and 2017, intraregional investments grew by 22 times from a low of \$1.2 billion in 2000 to a record level (\$26.6 billion).

Box figure 1.2.1. Rising intraregional investment despite fluctuations, 1995–2017
(Millions of dollars and per cent)

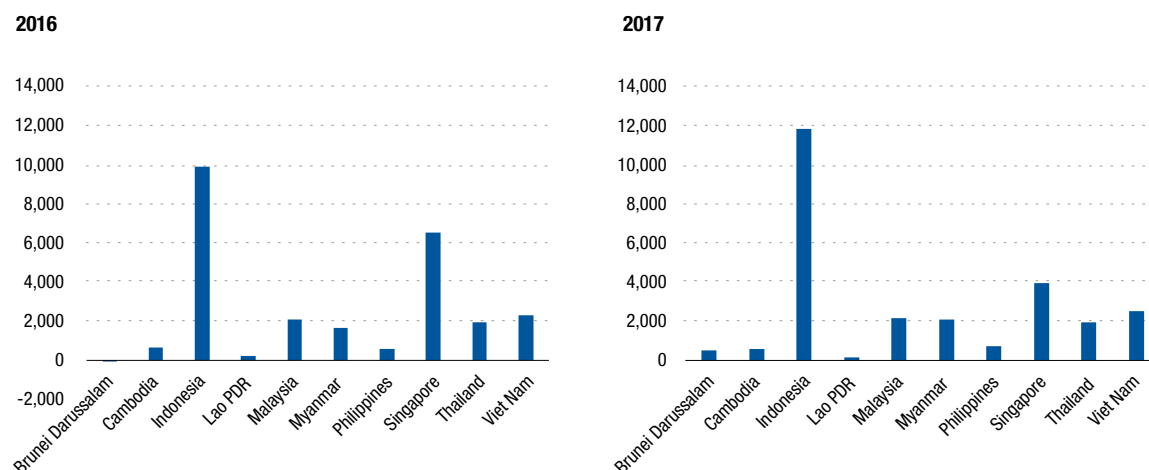


Source: ASEAN Secretariat, ASEAN FDI database.

Intra-ASEAN investments are an important source for countries in the region. Such investments are facilitating close industrial linkages and connectivity through regional value chains and production networks involving ASEAN companies based in the region (*AIR 2016*, *AIR 2017*).

Regional integration efforts such as the ASEAN Economic Community (AEC), industry division of labour, wage differentials and emerging investment opportunities are also encouraging more ASEAN companies to invest in the region. Their aspiration to internationalize and regionalize plays an important role in supporting the rising trend of intraregional investment (chapters 3 and 4).

Source: ASEAN Investment Report 2018 research.

Figure 1.10. Intra-ASEAN investment, by host country, 2016–2017 (Millions of dollars)

Source: ASEAN Secretariat, ASEAN FDI database.

Agriculture

Some 16 per cent of intra-ASEAN investment in 2017 went to agriculture and forestry – making ASEAN the largest source of investment in this sector. Intraregional investment in these industries rose by 54 per cent, from \$2.7 billion in 2016 to \$4.2 billion in 2017. Singapore was the largest investor, accounting for 87 per cent. Wilmar (Singapore) acquired the edible oil facilities of Cargill (United States) in Malaysia, and Kuala Lumpur Kepong (Malaysia) upgraded and expanded its facilities in Indonesia. Charoen Pokphand Foods (Thailand) expanded its operations in animal feed in the Philippines and announced plans to invest \$500 million there.⁶ Aboitiz Equity Ventures (Philippines) started animal feed production in Viet Nam in 2017, and Pilmico International (Philippines) expanded in Viet Nam with a 70 per cent acquisition of Eurofeed (Italy) for \$3.2 million. In 2018, Pilmico expanded in multiple ASEAN countries by acquiring a 75 per cent stake in one of the largest agribusiness MNEs in ASEAN (Gold Coin Management Holdings (British Virgin Islands)) for \$334 million. The acquisition provided immediate access to 20 livestock and aqua feed mills across 11 countries in Asia.

Manufacturing

Intra-ASEAN investment in the manufacturing industry has been increasing for two consecutive years, from \$4.4 billion in 2015 to \$8.6 billion in 2017. Companies from Singapore contributed to about 77 per cent of the intra-regional manufacturing investment last year. Indonesia was the second largest intra-regional investor in manufacturing (\$1 billion). Companies from Malaysia invested only \$330 million in the region's manufacturing industry (annex table 1.2), in contrast to its nearly \$1 billion manufacturing investment in the region in 2015.

ASEAN companies were active investors in various manufacturing industries, such as chemicals, electronics, and foods and beverages. In 2017, Vinamilk (Viet Nam) expanded its investment in Cambodia by acquiring the remaining shares in Angkormilk from BPC Trading (Cambodia), increasing its overall investment in Angkormilk to about \$21 million. Thai Beverage (Thailand) further expanded in Singapore with its acquisition of Alliance Asia Investment (Singapore) for nearly \$500 million. Siam Cement (Thailand) expanded its packaging production capacity in Viet Nam to serve the growing domestic market, and it partnered with Rengo (Japan) to acquire an 80 per cent interest in PT Indocorr Packaging Cikarang (Indonesia). It further expanded in Viet Nam with the acquisition of Vietnam Construction Materials for \$156 million. GP Batteries International (Singapore) opened a new plant in Viet Nam to serve the domestic market and for export. Fraser & Neave (Singapore) opened a new subsidiary in Malaysia and made additional investments in that host country in 2018. It also acquired more equity interest in Vinamilk (Viet Nam) to 20 per cent in 2018.

In 2018, a subsidiary of the Siam Cement Group, SCG Chemicals (Thailand) increased its stake in Binh Minh Plastics JSC (Viet Nam), a leading manufacturer of PVC pipes and joints, and acquired a 50 per cent stake in PT Nusantara Polymer Solutions (Indonesia), which supplies plastic resins. The group also set up the SCG Roofing Centre in the Lao People's Democratic Republic.

Services

The rapid growth of the region's economies and of digital development continued to attract ASEAN investments in services industries such as wholesale and retail, and finance. In 2017, Kim Teck Cheong Consolidated (Malaysia), a consumer packaged goods distributor, expanded in Brunei Darussalam through a 60 per cent acquisition of Grandtop Marketing (Brunei Darussalam). Barito Pacific (Indonesia) and Siam Cement (Thailand) established a joint venture in Indonesia to serve the logistics needs of the two parent companies. In 2018, JWD InfoLogistics (Thailand), which has a presence in Cambodia, Indonesia, the Lao People's Democratic Republic and Myanmar, expanded in Viet Nam with a cold storage plant. In the same year, it expanded in Indonesia by establishing a joint venture with Samudera Group (Indonesia) and by acquiring a 67 per cent stake in Adib Cold Logistics (Indonesia) for \$7.8 million.

In wholesale and retail activities, Malee Group (Thailand), a juice maker, formed two joint ventures in 2017 in Indonesia with PT Kino Indonesia (Indonesia). This was Malee's second investment in ASEAN after expanding into the Philippines in 2016. Jollibee Foods (Philippines) expanded with more stores in Brunei Darussalam and Viet Nam; it also opened 15 restaurants in Singapore in 2017 and 2018 and is expanding into Indonesia and Malaysia in 2018. QAF Ltd (Singapore) expanded its bread production and distribution business in the Philippines in 2018.

Financial companies in ASEAN continued to expand regionally as well. In 2017, Kasikorn Bank (Thailand) opened its first branch in Cambodia with registered capital of \$50 million, while in Viet Nam it partnered with State Capital Investment Corporation Investment (Viet Nam) to offer services to Thai companies expanding in the host country. Oversea-Chinese Banking Corporation (Singapore) established a private banking unit in Indonesia, an addition to its

existing wealth management services. Maybank (Malaysia) expanded in Brunei Darussalam in 2017 and 2018. It also expanded operations in Singapore and diversified its services in Thailand by offering advisory and derivative business in 2018. In the same year, United Overseas Bank (Singapore) expanded in Malaysia, including branching into wealth advisory services and opening its first fully owned subsidiary in Viet Nam. Public Bank (Malaysia) expanded its presence in Viet Nam by opening six new branches, and CIMB Bank (Malaysia) entered the Philippines through the establishment of a wholly owned subsidiary. CIMB Bank also expanded in the Philippines through partnerships with CIS Bayad Centre (Philippines) and FINTQnologies (Philippines), in order to combine their networks and expand their range of services in the Philippines.

The trend of ASEAN banks entering wealth management services shows a growing demand in this segment and that these financial institutions are diversifying the services they offer to clients. Many are also expanding their regional reach by digital means. For instance, Kasikornbank (Thailand) established a \$30 million venture capital fund in 2017 to invest in fintech companies across Southeast Asia. Fintech start-ups are expanding as well. Funding Societies (Singapore) has opened offices in Indonesia and Malaysia, Omise (Thailand) expanded to Indonesia and Singapore, and InstaReM (Singapore) expanded into Malaysia in 2017 (chapter 4).

In real estate activities, Keppel Land (Singapore) formed a joint venture with KPN Land (Thailand) in 2017 to acquire two sites in Thailand to develop condominiums. It also acquired a site in Indonesia to develop a \$123 million premium high-rise tower and acquired a few assets in Viet Nam. Mapletree (Singapore) opened its first fully owned property in Viet Nam in 2017 and a second one in 2018. Other Singapore companies have also made investments in real estate development in ASEAN countries in 2017. They include Hatten Land in Malaysia, CapitaLand in Viet Nam and Tritech International Holdings in Malaysia. Ayala Land (Philippines) increased its share in the property company MCT (Malaysia) to 72.3 per cent. In 2018, Keppel Land (Singapore) acquired interests in two sites in Viet Nam with an estimated development cost of \$297 million. Surbana Jurong (Singapore) partnered with the Bases Conversion and Development Authority (Philippines) and the Japan Overseas Infrastructure Investment Corporation for Transport and Urban Development (Japan) to develop the New Clark City industrial estate in the Philippines. Central Group (Thailand) is investing to expand its presence in Malaysia and Viet Nam.

Digital economy

ASEAN digital start-ups and companies operating in online retail business and e-commerce are also contributing to the rise in intra-ASEAN investments. Many of these companies invest in other ASEAN countries to grow their digital businesses rapidly (see chapter 4). Indonesia was one target country: In 2018, Fortesys Distribution (Malaysia) partnered with Plover Bay Technologies (Indonesia) in a network solutions business in Indonesia. RedDoorz (Singapore), an online hotel booking start-up, expanded into Indonesia, as did startup99.co (Singapore), which acquired the largest property portal (UrbanIndo (Indonesia)), as well as Gogoprint (Thailand) and Tribe Theory (Singapore), which offers hostels for start-ups. MyEG (Malaysia) made its first international

expansion into the Philippines in electronic government service, through a joint venture with I-Pay Commerce Ventures (Philippines) and an agent of Western Union (United States).

In other e-commerce activities, Carro (Singapore) an automotive marketplace and car financing company with operations in Indonesia and Thailand, expanded further in these two countries in 2017 and 2018. Carousell (Singapore) a marketplace start-up, which has a presence in Indonesia, Malaysia and the Philippines, made an acquisition in Malaysia (i.e. Duriana) in 2017 to further expand in that host country. Frontier Digital Ventures (Malaysia) expanded in the Philippines and Viet Nam. It acquired AutoDeal (Philippines), a sales portal, for \$2.3 million and Vietnamese real estate platform Propzy for \$1.2 million. Honestbee (Singapore), a grocery delivery start-up, expanded into Thailand in 2017, and Grab expanded its grocery delivery service to Indonesia in 2018.

Given the growing demand and the potential growth of the digital economy as a whole, digital infrastructure firms also continue to expand across the region. ASEAN companies such as Axiata (Malaysia) and Singapore Telecommunication invested in the region in 2017. Telekomunikasi (Indonesia) acquired a 70 per cent stake in satellite operator TS Global Network (Malaysia) for \$26 million.

Infrastructure

Some significant intra-ASEAN infrastructure projects in 2017 includes the expansion of Metro Pacific Tollways (Philippines) in Indonesia through a \$132 million investment stake in PT Nusantara (Indonesia). Seng Engineering (Singapore) won an EPC contract from Evonik Methionine (Germany) for a modular pipe racks package in Thailand, and SMEC (Singapore) was awarded a contract in Malaysia from Sarawak Energy (Malaysia) to provide construction supervision for the Baleh Hydroelectric Project (HEP).

Mining and power

PTT Group (Thailand) invested \$500 million in a stake with Petronas (Malaysia) in a liquefied natural gas venture project in Malaysia. Banpu (Thailand), a coal mining and power company, expanded its presence in Indonesia. EGCO Group (Thailand) acquired the geothermal assets of Chevron (United States) in Indonesia, after having acquired a 20 per cent stake in two geothermal power plants with Star Energy (Indonesia). In 2018, it further expanded its presence in Indonesia with another investment in a geothermal project with Star Energy (Indonesia). The group also invested in a power plant in the Philippines, scheduled to start commercial operations in 2019. Ayala Corporation (Philippines) partnered with a local company to develop a 300 MW solar power plant in Viet Nam. Manila Water Company (Philippines) acquired a 20 per cent stake in PT Sarana Tirta Ungaran (Indonesia) to expand operations in Indonesia.

Intra-ASEAN investments in Brunei Darussalam are mainly concentrated in the extractive industries, which is not surprising given the country's rich natural resources. Kreuz Subsea (Singapore) is managing a contract to repair and maintain an offshore oil and gas structures for Brunei Shell Petroleum. In 2018, Sapura Energy (Malaysia) started a 21-month contract

from Brunei Shell Petroleum to construct the Seria Crude Oil Terminal Oil Export System. In the same year, SapuraKencana Drilling (Malaysia) won a drilling contract from Brunei Shell Petroleum, and Icon Offshore (Malaysia), an offshore supply vessel company, won a \$16.2 million charter contract in the country.

Intra-ASEAN M&As

The lack of megadeals exceeding \$300 million pushed down intraregional M&As from \$2.8 billion in 2016 to \$0.8 billion in 2017 (table 1.7). However, net intra-ASEAN M&A purchases increased from 41 deals in 2016 to 56. The lower intra-ASEAN M&A values limited the opportunity for a stronger rise of intra-ASEAN investment last year.

Table 1.7. Intra-ASEAN M&A sales, by industry, 2014–2017 (Millions of dollars)

Industry	Net Sales			
	2014	2015	2016	2017
Total	-2,592	4,667	2,783	825
Primary	453	4,475	132	12
Mining, quarrying and petroleum	216	4,445	8	11
Manufacturing	105	241	-376	1,000
Food, beverages and tobacco	107	-35	-359	818
Manufacture of paper and paper products	-	92	-	14
Manufacture of computer, electronic, optical products and electrical equipment	117	154	-1	-
Manufacture of non-metallic mineral products	-	-	-17	158
Tertiary	-3,150	-49	3,027	-187
Electricity, gas, water and waste management	319	-	-2	99
Trade (wholesale and retail trade)	251	20	1,864	-115
Accommodation and food service	345	147	52	90
Transportation and storage	88	-53	79	100
Information and communication	-1,056	1	922	23
Financial and insurance	33	-162	36	-1,116
Real estate	-3,252	-21	19	736

Source: UNCTAD M&A database.

Companies from Singapore, Malaysia and Thailand made acquisitions in different industries than did companies from the other Member States (table 1.8). Intra-ASEAN M&A activities rose in food and beverages, from 3 in 2016 to 8 deals in 2017, and in real estate from 2 to 16 deals. The lack of deals in trade activities led to a plunge in the value of intra-ASEAN M&As from \$1.9 billion in 2016 to -\$0.1 billion in 2017. The number of finance deals in 2017 remained at the same level as in 2016 (six), but the value of intra-ASEAN M&As derived primarily from insurance deals.

Table 1.8. Intra-ASEAN M&A deals, 2017 (Selected cases)

Ultimate acquiring company	Ultimate acquiring nation	Target company	Target industry	Target nation	Value (\$ millions)	Shares acquired (%)
Thai Beverage	Thailand	Alliance Asia Investment	Distilled and blended liquors	Singapore	494	100
Tritech International Holdings	Singapore	Rise Expedition Global Ltd, First Star Ventures Ltd	Land subdividers and developers	Malaysia	400	100
Investor Group	Singapore	Prasac Microfinance Institution	Misc business credit	Cambodia	264	68.7
Thai Beverage	Thailand	Alliance Strategic Investments	Distilled and blended liquors	Singapore	198	100
Hatten Land	Singapore	Prolific Properties	Land subdividers and developers	Malaysia	174	100
Siam Cement	Thailand	Vietnam Construction Materials	Cement, hydraulic	Viet Nam	156	100
Entrp Investment Holdings	Philippines	Nusantara Infrastructure	Inspection and fixed facilities for motor vehicles	Indonesia	135	42.2
Health Management International	Singapore	Maikota Medical Centre	General medical and surgical hospitals	Malaysia	130	51
Mitr Phol Sugar Corporation	Thailand	Far East Agri	Cane sugar refining	Singapore	100	50
Genting	Malaysia	Knowledge One Investment	Financial investment services	Singapore	95	100
Aliran Armada	Malaysia	Southeast Asia Telecommunication Holdings	Investors, nec	Singapore	50	100
Siamgas & Petrochemicals	Thailand	230 MW Combined Cycle Power Plant	Electric services	Myanmar	48	30
TIME dotCom	Malaysia	Symphony Communication	Information retrieval services	Thailand	42	37
Investor Group (units of CapitalLand)	Singapore	Viet Hung Phu Real Estate Business Investment	Real estate investment trusts	Viet Nam	39	100
Keppel Corporation	Singapore	Keppel Land Watco I	Land subdividers and developers	Viet Nam	37	8.2
mm2 Asia	Singapore	Lotus Fivestar Cinemas	Services allied to motion picture production	Malaysia	28	100
Bowsprit Capital Corporation	Singapore	Siloam Hospitals Buton	General medical and surgical hospitals	Indonesia	21	100
Kasikornbank	Thailand	Bank Maspion Indonesia	Banks	Indonesia	20	9.9
Bowsprit Capital Corporation	Singapore	Siloam Hospitals Labuan Bajo	General medical and surgical hospitals	Indonesia	14	100
United Global	Singapore	Pacific Lubritama Indonesia	Lubricating oils and greases	Indonesia	13	95
Axiata Group	Malaysia	Suitech	Prepackaged software	Thailand	11	65
MayBank	Malaysia	PT Asuransi Asoka Mas	Insurance agents, brokers, and service	Indonesia	11	75
Vinamilk	Viet Nam	Angkor Dairy Products	Fluid milk	Cambodia	10	51
Chow Steel Industries	Thailand	RICI International Investment	Electric services	Singapore	10	60
Banpu	Thailand	PT Tepian Indah Sukses	Coal mining services	Indonesia	10	70
Khazanah Nasional	Malaysia	Angsana Holdings	Commercial physical and biological research	Singapore	7	55

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Table 1.8. Intra-ASEAN M&A deals, 2017 (Selected cases) (Concluded)

Ultimate acquiring company	Ultimate acquiring nation	Target company	Target industry	Target nation	Value (\$ millions)	Shares acquired (%)
Sime Darby	Malaysia	Tamiyang Sumber Rezeki	Soil preparation services	Indonesia	6	90
Abolitz Equity Ventures	Philippines	Vinh Hoan 1 Feed JSC	Prepared animal feeds	Viet Nam	4	15
Abolitz Equity Ventures	Philippines	Europe Nutrition JSC	Prepared animal feeds	Viet Nam	4	70
Cordlife Group	Singapore	Sterilife	Health and allied services, nec	Malaysia	3	8.8
Datapulse Technology	Singapore	Wayco Manufacturing	Perfumes, cosmetics, and other toilet preparations	Malaysia	3	100
Serial System	Singapore	Musang Durian Frozen Food	Canned fruits, vegetables, jams and jellies	Malaysia	2	50
Systech	Malaysia	PostLink	Direct mail advertising services	Singapore	2	51
AA Group Holdings	Malaysia	W&P Precast	Ready-mixed concrete	Singapore	2	95
Resource Holding Management	Malaysia	Enovax	Computer facilities management services	Singapore	1	100
QAF	Singapore	Millif Industries	Bread and other bakery products	Malaysia	1	35
Hatten Land	Singapore	Prolific Revenue	Land subdividers and developers	Malaysia	..	100
Asia Poly Holdings	Malaysia	Rimba Tripa	Cogeneration, alternative energy sources	Indonesia	..	51
mTouche Technology	Malaysia	Mobile Asia Vietnam	Communications services, nec	Viet Nam	..	100
Hatten Land	Singapore	Admiral Merger	Land subdividers and developers	Malaysia	..	100
Bangchak Petroleum	Thailand	PetroWind Energy Inc	Crude petroleum and natural gas	Philippines	..	40
Keppel Corporation	Singapore	Keppel Land Watco III	Land subdividers and developers	Viet Nam	..	8.2
Dufu Technology Corporation	Malaysia	Superior Plating Thailand	Investors, nec	Thailand	..	..
Lunch Actually	Singapore	Setipe.com	Information retrieval services	Indonesia	..	100
In-Corp Global	Singapore	Kittelson & Carpo Consulting	Management consulting services	Philippines	..	100
mm2 Asia	Singapore	Vividtree Productions	Investors, nec	Malaysia	..	100
Keppel Corporation	Singapore	Keppel Land Watco IV	Land subdividers and developers	Viet Nam	..	8.2
Health Management International	Singapore	Regency Specialist Hospital	General medical and surgical hospitals	Malaysia	..	39.2
Dagang NeXchange	Malaysia	PT Praisindo Teknologi	Computer facilities management services	Indonesia	..	..
Emerging Markets Invest	Singapore	iCare Benefits	Investment offices, nec	Cambodia	..	..
Jollibee Foods Corp	Philippines	SuperFoods Group	Eating places	Viet Nam	..	10
Quadria Capital Investment	Singapore	FV Hospital	Hotels and motels	Viet Nam	..	..
Thal Beverage	Thailand	Vietnam F&B Alliance Investment JSC	Management consulting services	Viet Nam	..	49

Source: UNCTAD M&A database.

1.5. CROSS-BORDER M&As IN ASEAN

Net cross-border M&A sales in ASEAN rose significantly by 124 per cent to \$16.7 billion in 2017, which contributed to the rise in FDI flows into the region (table 1.9). About 60 per cent of the sales were in Singapore; it was followed by Indonesia and Malaysia. The increase in cross-border M&A sales was due to the significant surge in acquisition of assets by developed-country MNEs (from -\$4.2 billion in 2016 to \$9.7 billion in 2017) and the rise in the average value of deals. Also contributing to the rise was the increase in the number of megadeals and in acquisitions of large-value petroleum mining assets, real estate activities, and food, beverage and tobacco businesses. The significant increase in the value of cross-border M&A sales in Indonesia, the Philippines and Singapore also pushed up the overall value of M&As in the region.

Japan, the United States and Austria were the leading developed countries in acquisition of assets in ASEAN in 2017. Their combined acquisitions accounted for 64 per cent of total cross-border M&A sales in the region. However, the number of deals made by developed countries declined from 97 in 2016 to 88, suggesting a larger average value of deals than in 2016. Japan had the most deals by far (54), followed by the United States (11).

Cross-border M&As by companies from developing economies declined by 41 per cent, from \$11.5 billion in 2016 to \$6.8 billion in 2017. With the exceptions of a few Asian economies, cross-border M&A sales by companies from China and ASEAN declined significantly in value terms. Chinese M&As in ASEAN declined by 24 per cent to \$3.6 billion, and intra-ASEAN M&A sales dropped by 70 per cent to just \$0.8 billion. Developing Asian countries remained active acquirers, with the number of deals increasing to 134 (from 126 in 2016), the fourth consecutive year of growth. ASEAN companies remained the largest Asian acquirers, with the number of deals rising from 41 in 2016 to 56, led by Singapore. M&As by Asian MNEs, including ASEAN companies, were relatively smaller in value.

Table 1.9. Net cross-border M&As in ASEAN, by region/economy, 2014–2017 (Millions of dollars)

Region/economy	Net Sales			
	2014	2015	2016	2017
World excluding Caribbean financial centres	5,604	10,309	7,476	16,741
Developed economies	5,480	1,718	-4,159	9,677
European Union	296	875	-6,539	496
Austria	-16	..	..	1,928
United States	154	-1,136	-100	2,914
Australia	1,051	-304	624	1,374
Japan	3,452	2,220	1,506	5,902
Developing countries excl Caribbean financial centres	-9	8,191	11,494	6,773
Asia	-125	8,191	11,057	6,618
China	2,655	1,647	4,778	3,644
Hong Kong, China	725	839	-509	1,192
Korea, Republic of	735	98	254	316
Intra-ASEAN	-2,592	4,667	2,783	825

Source: UNCTAD M&A database.

Megadeals

The number of megadeals exceeding \$500 million rose from 15 in 2016 to 17 in 2017 (table 1.10). Four of the five larger megadeals exceeding \$1 billion were in Singapore. These include the acquisitions by Exxon Mobil (United States) of InterOil Corporation's operation for \$3.9 billion, by MS&AD Insurance Group Holdings (Japan) of First Capital Insurance (Canada) for \$1.6 billion, by Warburg Pincus (United States) of ARA Asset Management (Singapore) for \$1.3 billion and by Donata Holdings (Austria) of Super Group's operation for \$1 billion. The acquisition by Macquarie (Australia) of Energy Development Corporation in the Philippines for \$1.3 billion also contributed to the rise in FDI inflows in that country last year.

Industry distribution

Cross-border M&As took place mainly in the services industry (\$7.4 billion, nearly the same level as in 2016) (annex table 1.3). The value of cross-border M&As in manufacturing rose by 239 per cent to \$5.4 billion in 2017, while values in the mining industry rose from -\$1.2 billion in 2016 to \$3.9 billion. M&As in just three industries accounted for 63 per cent of the total M&A value: mining (\$3.9 billion), primarily in oil extraction activities; food and beverages (\$3.6 billion); and real estate (\$3.1 billion).

Table 1.10. Cross-border M&A mega deals in ASEAN, 2016–2017

Ultimate acquiring company	Ultimate acquiring nation	Target company	Target nation	Target industry	Year	Value (\$ millions)	Shares acquired (%)	Shares owned after (%)
Thai Charoen Corp Group	Thailand	Big C Supercenter	Thailand	Grocery stores	2016	3,439	58.6	58.6
Merit Corporation Sal	Lebanon	Neptune Orient Lines	Singapore	Marine cargo handling	2016	2,421	100	100
China Gen Nuclear Power Corp	China	Edra Global Energy Bhd-Power Assets	Malaysia	Electric services	2016	2,295	100	100
PT Amman Mineral Internasional	Indonesia	PT Newmont Nusa Tenggara	Indonesia	Gold ores	2016	1,323	48.5	48.5
Amphenol Corporation	United States	FCI Asia	Singapore	Electronic connectors	2016	1,275	100	100
QEW	Qatar	Palton Energy	Indonesia	Cogeneration, alternative energy sources	2016	1,270	35.5	35.5
Singapore Telecommunications	Singapore	Intouch Holdings	Thailand	Radiotelephone communications	2016	1,182	21	21
Central Group	Thailand	Casino Gulichard-Perrachon SA-Big C Vietnam Stores	Viet Nam	Grocery stores	2016	1,135	100	100
Alibaba Group Holding	China	Lazada South East Asia	Singapore	Catalog and mail-order houses	2016	1,000	..	..
CTIC Securities	China	Biosensors International Group	Singapore	X-ray apparatus and tubes, and other irradiation equipment	2016	818	80.5	100
Mitsubishi UFJ Financial Group	Japan	Security Bank Corporation	Philippines	Banks	2016	778	20	20
Investor Group (EMR Capital and Farallon Capital Management)	Australia	G-Resources Grp Ltd-Martabe gold mine in Indonesia	Indonesia	Gold ores	2016	775	95	95
TCC Holding	Thailand	Metro Cash & Carry Vietnam	Viet Nam	Grocery stores	2016	705	100	100
Citigroup	United States	Nirvana Asia	Malaysia	Funeral service and crematories	2016	598	57.3	100
China Investment Corporation	China	Bank of China (Malaysia)	Malaysia	Banks	2016	502	100	100
Exxon Mobil	United States	InterOil Corp	Singapore	Crude petroleum and natural gas	2017	3,952	100	100
MS&AD Insurance Group Holdings	Japan	First Capital Insurance	Singapore	Fire, marine, and casualty insurance	2017	1,600	97.7	97.7
Capitaland Commercial Trust	Singapore	MVKimi (BVI)	Singapore	Investors, nec	2017	1,568	100	100
Macquarie Group	Australia	Energy Development Corporation	Philippines	Electric services	2017	1,281	31.7	31.7
Warburg Pincus	United States	ARA Asset Management	Singapore	Investment advice	2017	1,278	100	100
Mitsubishi UFJ Financial Group	Japan	Bank Danamon Indonesia	Indonesia	Banks	2017	1,175	19.9	19.9
Alibaba Group Holding	China	PT Tokopedia	Indonesia	Information retrieval services	2017	1,100	..	..
Donata Holdings	Austria	Super Group	Singapore	Roasted coffee	2017	1,047	100	100
Japan Tobacco	Japan	Karyaditva Mahardhika	Indonesia	Cigarettes	2017	1,000	100	100
Alibaba Group Holding	China	Lazada South East Asia	Singapore	Catalog and mail-order houses	2017	1,000	32	83
Hainan Province Cihang	China	CWT	Singapore	Trucking, except local	2017	996	100	100
ams	Austria	Heptagon Advanced Micro-Optics	Singapore	Semiconductors and related devices	2017	881	100	100
Blackstone Group	United States	Croesus Retail Trust	Singapore	Real estate investment trusts	2017	649	100	100
Investor Group (Innovation Network Corporation of Japan and Khazannah Malaysia)	Japan	edotco Group	Malaysia	Radiotelephone communications	2017	600	34.1	34.1
Jardine Matheson Holdings	Hong Kong, China	Euroville	Singapore	Operators of apartment buildings	2017	554	100	100
Japan Tobacco	Japan	Mighty Corporation-Assets	Philippines	Cigarettes	2017	544	100	100
Manulife Financial Corporation	Canada	8 Cross Street	Singapore	Operators of nonresidential buildings	2017	526	100	100

Source: UNCTAD M&A database.

Note: Two deals in the table are not cross-border but are significant, which involved ASEAN companies acquiring foreign companies based in ASEAN. Thai Charoen Group (Thailand) acquired a 58.6 per cent share in Big C Supercenter in Thailand from Casino Gulichard-Perrachon (France) and PT Amman Mineral (Indonesia) acquired a 48.5 per cent stake in PT Newmont Nusa Tenggara in Indonesia from Newmont Mining Corporation (United States) in 2016.

1.6. MNE ACTIVITIES AND OPERATIONS IN ASEAN

MNEs continue to invest and expand in ASEAN in a wide range of industries. A number of specific characteristics of their activities in 2017 are worth highlighting. Asian companies were active in wholesale and retail trade, and manufacturing activities. American and European MNEs were also active in expanding in the region.

MNEs also continue to upgrade their operations by establishing or expanding R&D activities and regional headquarters functions. Such upgrading in operational functions continued to focus on a few more advanced member countries with competitive ecosystems or rapidly growing major industry clusters (e.g. automotive and electronics in Malaysia and Thailand).

Manufacturing MNEs undertook investments and expansions in industries such as electronics, automotive, food and beverages, chemicals and other goods. Asian and ASEAN MNEs were significant investors (sections 1.3 and 1.4), with some major investments by MNEs from the European Union and the United States. Significant automotive investments in some Member States contributed to the rise in manufacturing FDI such as in Indonesia. The strong presence of and increased investment by major automotive manufacturers encouraged parts and components suppliers to invest in and expand operations in 2017 and 2018 in Indonesia, Thailand, Malaysia and Viet Nam – strengthening further the regional value chain of automotive activities and clusters. Japanese automotive MNEs and parts and components suppliers were particularly active. Electronics MNEs from Japan, the Republic of Korea, the European Union, the United States and China also continue to expand in the region.

Economic growth, increasing consumer income, deepening regional integration and other market factors are attracting MNEs in services to invest in the region. Increasingly more manufacturing MNEs are investing or expanding in market-seeking activities, increasing their value chain participation by connecting their operations with marketing and retail activities.

Agriculture and plantations

ASEAN companies were active in agriculture activities, particularly companies from Singapore and Malaysia. They included companies such as Wilmar (Singapore) and Sime Darby (Malaysia),⁷ which made investments in neighbouring countries.

Other foreign MNEs also invested in agriculture activities in 2017. They included Cargill (United States), which opened the largest poultry processing plant in the Philippines with a local partner, Jollibee Foods Corporation. Hainan State Farms Investment Holding Group (China) expanded into rubber plantations in Indonesia through acquisition of a 45 per cent stake in PT Kirana Megatara (Indonesia), and Japan Tobacco expanded its presence through the acquisition of Kretek Cigarette Company (Indonesia) and its distributor (Surya Mustika Nusantara) for \$1 billion. Japan Tobacco also expanded in the Philippines, acquiring Mighty Corporation (Philippines) for \$936 million.

Manufacturing

ASEAN, Japanese, Chinese and Korean companies were active investors in a wide range of manufacturing activities last year. The key industries include electronics, automotive, chemicals, and food and beverages.

Electronics

In 2017, Epson (Japan) opened a new inkjet printer plant in the Philippines to increase production capacity and upgrade facilities. Jabil (United States) opened an aerospace precision machining manufacturing facility, and OPPO Electronics (China) increased its production capacity for smartphones in Indonesia by more than 50 per cent. Suzhou Good-Ark Electronics (China) a semiconductor company that already has operations in Malaysia and Singapore, acquired a 92 per cent interest in AIC Semiconductor (Malaysia) for \$10 million. Mitsubishi Electric (Japan) completed a new elevator test tower, and Sumitomo Electric Wintec (Japan) expanded operations in Thailand. Hirata Precision (Japan) opened a plant to produce parts for office automation equipment, and Trina Solar (China) opened a \$100 million advanced photovoltaic solar cell plant in Viet Nam.

Many Korean and Japanese electronics companies have also expanded or opened new factories in the CLMV countries, in particular in Viet Nam. In 2017, Hanwha Techwin (Republic of Korea) invested \$100 million in a new subsidiary in Viet Nam, to expand production. Epson (Japan), which has operations in various ASEAN countries, established a new sales subsidiary in Viet Nam. MNEs from outside Asia are also investing in the CLMV countries (section 1.3). For instance, RCH Group Spa (Italy), a manufacturer of advanced point of sale systems, opened a new facility in Viet Nam.

In 2018, Delta Electronics (Taiwan Province of China) expanded in Thailand and Infineon (Germany), a semiconductors company, established a learning centre in that host country. NEC (Japan) established a new plant in Thailand for communications equipment and Furukawa Electric (Japan) expanded in the Philippines. Micron Technology (United States) is building a flash memory fabrication plant in Singapore, which will also carry out R&D activities.

ASEAN companies in electronics from Singapore, Malaysia and Thailand have been actively opening or expanding regionally, further strengthening intra-ASEAN investment (section 1.4).

Automotive

Some major global automotive MNEs further expanded in the region with investments concentrated in Indonesia, Malaysia and Thailand. Some have also expanded their operations in the Philippines, Singapore and Viet Nam (table 1.11). The growing regional market, rising incomes and increase in middle-class consumers, together with steady economic growth, helped attract more automotive FDI. The market potential of the region and a manufacturing environment that facilitates regional production networks – made possible by zero or near zero

tariffs under the ASEAN Free Trade Area (AFTA) arrangement and the ASEAN Trade in Goods Agreement (ATIGA) – have contributed to the growth in automotive investment over the years (*AIR 2014*). Regional integration has facilitated easier sourcing and more efficient intra- and inter-firm trading or production activities, including cluster development, creating an environment that is conducive to investment by automotive manufacturers and component suppliers.

Table 1.11. Automotive MNE expansions in ASEAN, 2017–2018 (Selected cases)

MNE	Headquarters	Host country	Investment activity	Year
Subaru cars (manufactured by Fuji Heavy Industries Ltd)	Japan	Thailand	Started production of vehicles	2017
Honda	Japan	Thailand	Opened a \$40 million testing facility	2017
BMW Group	Germany	Malaysia	Established a regional parts distribution centre	2017
SAIC-GM-Wuling	China–United States	Indonesia	Developed a \$700 million production facility	2017
Mitsubishi Motors	Japan	Indonesia	Established a \$565 million manufacturing plant	2017
Scania	Sweden	Thailand	Building a \$23 million facility for industrial and commercial operations	2017
Hyundai Motor	Republic of Korea	Viet Nam	Established a joint venture in manufacturing with a local partner	2017
PSA Group	France	Viet Nam	Expanded assembly activities for production of Peugeot vehicles	2017
Astra Daihatsu Motor	Japan	Indonesia	Opened an R&D centre	2017
Mercedes-Benz	Germany	Thailand	Expanded a warehouse and training centre	2017
FOMM Corporation	Japan	Thailand	Opened a plant	2017
Harley-Davidson	United States	Thailand	Established an assembly plant	2017
BMW Group	Germany	Thailand	Established a new production line	2017
Mazda	Japan	Thailand	Opened an engine machining factory	2018
Mercedes-Benz	Germany	Thailand	Opened a battery factory	2018
Groupe PSA	France	Malaysia	Established a shared manufacturing hub in ASEAN with a Malaysian company	2018
Mabuchi Motor Co, Ltd	Japan	Viet Nam	Constructing a new motor plant	2018
Mazda	Japan	Viet Nam	Building a new factory	2018
Hyundai Motor	Japan	Viet Nam	Expanded production	2018
BMW	Germany	Malaysia	Opened an engine assembly plant with a Malaysian company	2018

Sources: News media, Markline and company website.

In 2017, Hyundai Motor (Republic of Korea) established a joint venture with a local company in Viet Nam to manufacture vehicles for export to other ASEAN countries. Mitsubishi Motors (Japan) opened a \$565 million manufacturing plant and SAIC-GM-Wuling (China–United States) opened a \$700 million production facility in Indonesia. Honda (Japan) started engine production in a new plant in Thailand, to export engines to other Honda assembly plants in

Asia. BMW (Germany) opened an engine assembly plant with Sime Darby Auto Engineering (Malaysia) in Malaysia.

Automotive MNEs are not just expanding their production of motor vehicles in ASEAN. Many are also establishing R&D facilities in the region – moving up in the value chains. Honda (Japan) opened an R&D centre in Thailand in 2017, its first R&D centre outside Japan and the United States. Scania AB (owned by the Volkswagen Group (Germany)) opened an industrial plant in Thailand in 2018 to carry out R&D activities. Mercedes-Benz, with an R&D activity in Thailand, started production of batteries for electric vehicles in that host country in 2018.

The presence of many global automotive MNEs in the region has attracted part and component manufacturers to establish plants and operate in the growing automotive clusters (table 1.12). Some of these component manufacturers have been establishing new factories in 2017–2018 – further strengthening the automotive clusters and regional production networks (*AIR 2014*, *AIR 2017*). Most of the new factories have been built by Japanese companies, with a large proportion of them set up in Indonesia and Thailand. Some of the first-tier companies, which already have multiple plants in ASEAN, have expanded because of growing demand and the need to operate close to customers and to improve logistics efficiency. These first-tier companies in turn attracted new investment from lower-tier manufacturers. For instance, in 2017, Nexteer Automotive (United States), a motion control subsystems manufacturer, opened a manufacturing plant in Indonesia to supply electric power steering to SAIC-GM-Wuling Automobile (China). Daido Kogyo (Japan) opened a plant to produce motorbike chains in Viet Nam, and Umicore (Belgium) opened a factory in Thailand. In 2018, Continental (Germany) opened an R&D facility in Thailand to strengthen and support its value chains within the region, and Valeo (France) opened a manufacturing plant in Malaysia.

Chemicals

In 2017, BASF (Germany) opened a new coatings production facility in Thailand, and AbbVie (United States) opened a \$320 million biologics plant in Singapore. Jowat (Germany), a producer of adhesives, opened a new subsidiary in Viet Nam in 2017 and followed that with another facility in Thailand in 2018. Other MNEs making chemicals investments included Jotun (Norway), a paint company, which opened a new factory in the Philippines; Clariant (Switzerland), which opened a bleaching production plant in Indonesia; Asian Paints (India), which established a plant in Indonesia; and Linde Group (Germany), which opened a modular, automated, industrial gas cylinder-filling plant in Malaysia, its first in ASEAN. Royal Dutch Shell (Netherlands) opened a lubricants plant in Singapore, with production targeted for export across Asia. 3M (United States) opened a new factory in Viet Nam in 2017 to serve the growing local market.

MNEs continue to be active in establishing chemical plants in ASEAN in 2018. Mitsubishi Chemical (Japan) expanded its polymers business in Indonesia, and SGS (Switzerland) expanded its testing laboratory facilities there. Mitsubishi Chemical also established a regional management company in Singapore to expand and oversee operations in ASEAN. SFR (India) opened a \$60 million facility in Thailand, to increase its production capacity.

Table 1.12. Expansion of automotive parts and components manufacturing plants in ASEAN, 2017–2018
(Selected cases)

Company	Headquarters	Products	Host country	Investment activity	Year
Sumitomo Electric Wintec	Japan	Electric	Thailand	Expansion	2017
Bridgestone	Japan	Aircraft tyres	Thailand	New production plant	2017
Aisin AW	Japan	Automatic transmissions	Thailand	Production from a new automatic transmission plant	2017
Shin-Etsu Chemical	Japan	Silicon monomers	Thailand	Expansion of production	2017
Daido Kogyo	Japan	Chains	Viet Nam	Produce motorbike chain	2017
Kusumoto Chemicals	Japan	Chemicals	Thailand	New plant	2017
Sawafuji Electric	Japan	Engine starters	Thailand	Expansion of production capacity	2017
Hitachi Chemical	Japan	Chemicals	Thailand	Expansion via acquisition	2017
Nippon Steel & Sumitomo	Japan	Metal Steel	Indonesia	A joint venture with two Japanese company	2017
Nitto Seiko	Japan	Diverse	Indonesia	Acquisition of industrial fastener plant	2017
Asahi Kasei	Japan	Chemicals	Singapore	Expansion of production capacity	2017
Kobe Steel	Japan	Steel	Thailand	Establishment of South and South-East Asia headquarters	2017
Toda Kogyo	Japan	Magnetic production	Thailand	Establishment of a magnetics compound	2017
Toyoda Gosei	Japan	Airbag parts	Viet Nam	New plant	2017
Mitsubishi Steel MFG	Japan	Steel	Indonesia	Expansion through an acquisition of an Indonesian company	2018
Huvis	Republic of Korea	Chemicals	Thailand	Formation of a joint venture with a local company	2018
NEC Platforms	Japan	Communications equipment	Thailand	New plant	2018
Tada Plastics Mold	Japan	Plastics	Thailand	Expansion	2018
Anca	Australia	Tool and cutter grinders	Thailand	Upgrade of production facility	2018
United Motor Works	Thailand	Industrial and automotive tools, equipment and machinery	Myanmar	Expansion (planning)	2018
Infineon	Germany	Semiconductors	Thailand	Establishment of a learning centre	2018
BorgWarner	United States	Powertrain	Thailand	New production plant	2018
Murata Manufacturing	Japan	Electronic components	Philippines	Construction of a second plant	2018
Delta Electronics	Taiwan Province of China	Electronics	Thailand	Expansion	2018
Furukawa Electric	Japan	Electronics	Philippines	Expansion	2018
AAPICO Hitech	Thailand	Diverse	Viet Nam	Joint venture with Vinfast Trading & Production (Viet Nam)	2018
Continental	Germany	Diverse	Singapore	Expansion with a R&D facility	2018
Varroc Group	India	Electronics	Viet Nam	Opening of a new production facility	2018
Mitsubishi Chemical	Japan	Chemicals	Indonesia	Expansion through acquisition	2018

Sources: News media, Markline and company website.

Other manufacturing

There has been an increasing trend in manufacturing investments by European, American and Japanese MNEs to support the growing health care industry (see box 1.1). In 2017, Fresenius Medical (Germany) opened a regional manufacturing plant in Malaysia to export to other ASEAN countries, Boston Scientific (United States) opened its first Asian medical device manufacturing plant in the same host country and B. Braun Melsungen AG (Germany), a pharmaceutical company, opened a \$68 million factory in Indonesia.

In food and beverages, Bel Group (France) opened a plant in Viet Nam in 2017 to produce cheese for the local market and for export to neighbouring countries. Kerry (Republic of Ireland) expanded its regional development and application centre in Thailand in 2018, which is an ingredient and flavours manufacturing plant, and AAK (Sweden-Denmark) is building a new coconut oil plant in the Philippines, which is due to start operation in late 2018. United Caps (Luxembourg) started building a manufacturing facility in Malaysia in 2017 to meet increasing demand of advanced caps and closures in Southeast Asia. In the same year, Crown (United States) opened a new beverage can manufacturing plant in Indonesia.

Procter & Gamble (United States) opened a new plant in Indonesia in 2017 to produce diapers for the local market and export to neighboring countries, Knauf Gips KG (Germany) built a \$43 million manufacturing plant in the Philippines to produce building materials and ABB (Switzerland) expanded its presence in Indonesia with a new manufacturing facility for high-voltage switchgears. Japanese companies such as Sunny House (constructor of buildings), Sanden Group (a heating and cooling technologies company), and I-den (manufacturers of electrical cabinets) started operation in the Long Duc Industrial Park, Viet Nam. LS Cable and System (Republic of Korea) established a joint venture operation with a local Indonesian partner in 2018 to build a \$40 million factory to manufacture electric cable.

Services industries

In services, MNE activities in 2017 were concentrated in wholesale and retail trade followed by finance and real estate. The rapidly growing regional market, increasing income level and strong economic growth continue to attract MNE activities in these services industries. The prospect of a stronger digital economy in ASEAN has also attracted significant investment from digital and technology companies in e-commerce trade (chapter 4).

Wholesale and retail

There has been an increase in investment in wholesale and retail trade, driven by increased consumerism and digital commerce activities. In 2017, the luxury beauty brand Lancôme Travel Retail (France) opened a store in Singapore, as did Apple (United States). Amazon (United States) increased its presence and capacities in Singapore. 7-Eleven (Japan) opened its first store in Viet Nam and LC Waikiki (Turkey) opened its first store in Indonesia. Luxury fashion company Prada (Italy), sporting goods retailer Decathlon (France) and indoor fragrances Lampe Berger Paris (France) each opened stores in the Philippines. Also in 2017, in Indonesia, LuLu

(United Arab Emirates) opened its second hypermarket, Miniso (China) opened another store and stationer Faber-Castell (Germany) opened its first store. Watsons (Hong Kong, China), a beauty care store, added stores in Thailand, while Ladurée (France) expanded in Malaysia. Harvey Norman (Australia) also added stores in Malaysia. Major Japanese and Korean retailers such as Aeon (Japan) and Lotte (Republic of Korea) opened more stores and malls in ASEAN in 2017 with more supermarkets being built in the region.

In 2018, the Philippines saw several retailers expand or open new outlets in the country. Further, fashion brand Uniqlo (Japan) opened its first store as did luxury brand Chanel (France), jewellery retailer Luk Fook (Hong Kong, China) and shoe company United Nude (United Kingdom). Pacsafe (Hong Kong, China) expanded its presence with its fourth store. In addition, Tim Hortons (Canada), a coffee retailer, and Bata (Switzerland), a shoe retailer, opened stores in 2017–2018. Ikea (Sweden) is building its first store in the country, which will open in 2020.

Ikea also opened its second store in Thailand in 2018. Luk Fook opened its third store in Malaysia, and Lush (United Kingdom) plans to open a store in the country. Ray-Ban (Italy) opened its first store in Malaysia, and Uniqlo (Japan) opened one in Bangkok. ChromaDex (United States) and Watsons (Hong Kong, China) formed a partnership to launch retail stores in Singapore. Carrefour (France) signed an agreement with the Mosque Council (Indonesia) to open mini-supermarkets in Indonesia, with a target of 300 stores. Time International (United States) expanded in Indonesia by opening a boutique shop, and Sabon (Israel) opened a flagship boutique in Singapore, its first in Southeast Asia.

An increasing trend in retailing is that manufacturing MNEs are undertaking market-seeking activities in ASEAN by opening retail operations to extend their regional value chain. For instance, Honeywell (United States) established its regional headquarters in Malaysia in 2017 to boost sales across ASEAN, Xiaomi (China) a smartphone company, expanded its market-seeking activities in Thailand and LG Electronics (Republic of Korea) expanded its retail presence in Malaysia in 2018.

Finance and banking

Financial MNEs that invested in the region in 2017–2018 included Prudential (United Kingdom), which entered the Indonesian insurance market through a joint venture with CT Corporation (Indonesia), and Aviva (United Kingdom), which entered Viet Nam by acquiring all the shares of its Vietnamese partner. Insurance company Allianz (Germany) expanded in Indonesia in 2017 by increasing its service range. Foreign banks such as Shanghai Pudong Development Bank (China), China Construction Bank (China) and Morgan Stanley (United States) expanded in Singapore in 2017, as did Woori Bank (Republic of Korea) in Indonesia. Other financial institutions that expanded in ASEAN in 2017 included Korea Deposit Insurance (Republic of Korea) in the Philippines, Resona Holdings (Japan) in Singapore, and Rue La Boetie SAS (France), which acquired a division of Banque Transatlantique (Switzerland) in Singapore to expand in that country. Chinese financial companies such as China Investment Corporation expanded in Thailand in 2017. Sun Life Financial (Canada) and its local partner, Avicennia

Capital (Malaysia), expanded in Malaysia by strengthening their distribution channels. Aetna (United Kingdom) acquired the Thailand division of Bupa (United Kingdom) to expand its health insurance presence in Southeast Asia.

In 2018, HSBC (United Kingdom) expanded in Malaysia and Indonesia, Standard Chartered (United Kingdom), through a partnership with G4S (United Kingdom), added to its cash deposit machine business in Indonesia, and Bank of Tokyo-Mitsubishi UFJ (Japan) acquired a majority stake in Bank Danamon (Indonesia) to expand its presence in Indonesia. Pictet Group (Switzerland) and VP Bank AG (Liechtenstein) expanded in Singapore. Pacific Prime (Hong Kong, China) opened an office in Thailand for its insurance brokerage services, targeting locals, expatriates and multinational businesses. McLarens (United States), encouraged by increased local demand and market opportunity opened a new office in Malaysia. Insurance MNE Allianz (Germany) added its services in Singapore by opening another branch, and Kwiksure (Hong Kong, China), a car insurance company, established an office in Singapore.

IT services

In 2017, Orange (France) expanded its presence in Malaysia so it could extend its provision of services across ASEAN. In Indonesia, Huawei (China) increased its stake in Bakrie Telecom (Indonesia), and Alibaba led a \$1.1 billion investment in Tokopedia (Indonesia). The marketing technology company YouAppi (United States) expanded its services to Indonesia, the Philippines and Thailand. Seaward Group (United Kingdom) opened an office in Singapore to use the host country as a base to serve other ASEAN countries. Tata Communication (India) added to its services in Malaysia and Singapore and plans to expand into other ASEAN countries, and Fujitsu (Japan) expanded its global delivery centre in the Philippines.

In 2018, Telstra (Australia) and its joint venture partner Telekomunikasi (Indonesia) added to its cloud services in Indonesia (chapter 3). Other companies that have expanded in ASEAN in 2018 include Alibaba (China), with an investment in cloud services in Indonesia, Malaysia and Singapore. Huawei (China) expanded its presence in Thailand, and both Megaport (Australia) and NTT Data (Japan) added to their cloud connectivity solutions in Indonesia.

Digital economy and e-commerce

Online retail companies have also extended their presence in the region (chapter 4). In 2017, Amazon (United States) invested in Singapore to enter the Southeast Asia market, with a particular focus on Indonesia. DHL eCommerce (Germany) expanded in Thailand because of the high growth in e-commerce activities in that country. In 2018, Alibaba (China) extended its e-commerce activities concurrently in Indonesia, Malaysia, the Philippines, Singapore and Thailand. In 2018, OYO Hotels (India) expanded into Indonesia, helping connect hotels with customers. Fitness start-up ClassPass (United States) was launched in Singapore, and Indeed (United States), an online recruitment site, established its Southeast Asia technology hub in that country. Goxip (Hong Kong, China), a fashion e-commerce site, is making further investments in Malaysia, having established a presence there in 2016.

Logistics companies also made investments in 2017, further strengthening the e-commerce ecosystem. Alibaba (China) set up a logistics base in Thailand, and shipping companies Steder Group (Netherlands) and MacGregor (Finland) established offices in Singapore.

Infrastructure

MNEs are involved in different types of infrastructure projects in ASEAN, from owning and operating power plants to providing EPC services as contractors in building or upgrading bridges, roads, railway lines, airports and power plants. In 2017, LS Cable & System (Republic of Korea) secured a \$327 million contract to install high-voltage cables in Singapore. General Electric (United States), with SPR Energy (Malaysia), won an 18-year contract to provide operations and maintenance for the Kimanis Sabah combined-cycle gas-fired power plant in Malaysia. Siemens (Germany) is building the 60 MW Tolo wind farm in Indonesia. Toshiba (Japan) won a supply equipment contract for expansion of the Tanjung Jati B coal-fired power plant in Indonesia. Thyssenkrupp (Germany) secured a contract to build a fertilizer plant in Brunei Darussalam, to be completed by 2021. Doosan Heavy Industries & Construction (Republic of Korea) secured a \$420 million contract with a local partner to build a power plant in Indonesia.

In 2018, Hyundai Engineering (Republic of Korea) was awarded a \$273 million EPC contract from Bangchak Corporation (Thailand) for a refinery expansion in Thailand. Samsung Engineering (Republic of Korea) was awarded a \$790 million EPC contract from PTT Global Chemical (Thailand). In Malaysia, Jacobs Engineering Group (United States) won two contracts from Hyundai Engineering (Republic of Korea) to upgrade an oil refinery in Malaysia. Poyry (Finland) won a biomass project in the Philippines, and Hochtief (Germany) won a \$100 million contract for construction of an expressway. In Viet Nam, Siemens (Germany) was awarded a contract to supply equipment for a 258 MW solar plant in the country. Samsung Engineering (Republic of Korea) won a \$500 million contract in Viet Nam for a polyolefins project for Long Son Petrochemical (Viet Nam). Steelcon (Tanzania) installed a 90 m-high steel chimney at a plant in Thailand. General Electric (United States) signed an agreement to provide equipment for the construction of a 1,440 MW combined-cycle power plant in Malaysia. Mitsubishi Hitachi Power Systems (Japan) completed the construction of an 880 MW plant in Indonesia, and ABB (Switzerland) won a contract to supply a compact gas-insulated switchgear to PLN (Indonesia) for a power plant.

MNEs have also played an important part in transport development in ASEAN. In 2017, CAF (Spain) and Mitsubishi (Japan) were awarded a contract from the Philippines Department of Transport and Communications to supply rolling stock for the Manila Light Rail Transit Line 1. In 2018, Egis (France) with Team Consult (Thailand) was awarded a \$1.7 billion three-year contract for the Bangkok subway Pink Line, and Thales ETCS (France) won a contract to increase rail capacity by 40 per cent on the subway's Red Line. Nippon Signal (Japan) won a contract for signalling and automatic fare collection systems for the Red Line, while other Japanese MNEs (Mitsubishi Heavy Industries, Hitachi and Sumitomo) secured a \$1.1 billion contract to build the Red Line.

Research and development

More MNEs are seeing investment opportunities to undertake research and knowledge-based activities in the region. Host-country policies to encourage and facilitate R&D activities – such as in Indonesia, Malaysia, Singapore and Thailand – have played a role. In some countries, such as Malaysia and Singapore, the skilled workforce, developed ecosystems and dedicated science parks (*AIR 2017*) also contribute to attracting MNEs' investment in R&D. Although many MNEs in the past focused mainly on Singapore for such activities, other ASEAN Member States are now attracting R&D-related FDI.⁸

MNEs have set up R&D facilities in different industries, thereby strengthening and expanding their regional value chains. A recent investment by Panasonic (Japan) in Singapore focused on R&D in the refrigeration compressor business. In 2017, vacuum manufacturer Dyson (United Kingdom) opened a \$561 million technology centre in Singapore to carry out advanced R&D activities. Osram Opto Semiconductor (Germany) opened a global headquarters and an R&D centre in Malaysia for its solid-state lighting business. Motorola (United States) established an R&D facility in Penang (Malaysia), its largest outside the United States. Nissan (Japan) opened an R&D facility in Thailand, Apple (United States) opened its first R&D centre in Indonesia, and Denka (Japan) opened a chemical R&D facility (the Denka Life Innovation Research Centre) in Singapore. Samsung Electronics (Republic of Korea) is building a \$300 million mobile R&D centre in Viet Nam. In addition, Bosch (Germany) opened its first smart factory in Thailand, Daihatsu (Japan) upgraded its R&D centre in Indonesia to develop its next vehicles and Ferrero (Italy) opened an innovation centre in Singapore. Honda (Japan) opened an R&D facility for Asia-Pacific in Thailand to test automobiles and motorcycles.

In 2018, Mondelez International (United States) opened a \$65 million R&D facility in Singapore to help develop innovative products, and Continental (Germany) opened a third R&D site in Singapore. Philips (Netherlands), in partnership with Singapore Institute of Advanced Medicine Holdings, opened a regional oncology centre. In addition, Singapore saw other MNEs investing in R&D activities in the country. They include chemical company Evonik (Germany), food company Archer Daniels Midland (United States), Hoya Surgical Optics (United States) and Agilent Technologies (United States). Kerry Group (Ireland) expanded its regional development and application centre in Thailand, Cargill opened an aquaculture innovation centre in Indonesia and Universitas Indonesia, with Daewoong Pharmaceutical (Republic of Korea), opened a biotechnology research centre to develop biosimilar products.

Regional strategies and headquarters

In 2017–2018, some MNEs increased their investment in regional headquarters operations to coordinate their expanding networks and affiliates in the region. In 2017, Vice (United States), Mann+Hummel Group (Germany), 20th Century Fox (United States), TransferWise (United Kingdom) and Qualtrics (United States) all established regional headquarters in Singapore. CNH Industrial (United States) established a \$10 million regional headquarters in Thailand, and Lenovo (China) established a regional hub in Thailand, which is also the business unit coordinating its operations in ASEAN. Delaware Consulting (Belgium) established its regional

headquarters in the Philippines. In 2018, Swiss Re (Switzerland) and Schneider Electric (France) each established a regional headquarters in Singapore.

Other MNEs established affiliates in ASEAN in 2017–2018 with the purpose of exporting to other ASEAN Member States. In 2018, Alibaba (China) invested in Thailand to use the host country as a logistics base for e-commerce, covering also the neighbouring CLMV countries.⁹

1.7. PROSPECTS AND CONCLUSION

Foreign and ASEAN MNEs continued to invest and expand in the region in a broad range of areas, from agriculture, mining and manufacturing to services. Some undertook multiple investments concurrently in different ASEAN countries in the same year. The growth in investments was driven by companies' interest in strengthening production capacities, upgrading in value chains (e.g. into R&D and retailing functions to support manufacturing) and undertaking market-seeking expansion and was encouraged by regional integration. ASEAN companies remained the most active investors, which contributed to further growth in intra-regional investment and connectivity through intra- and inter-firm activities.

Strong investment growth in wholesale and retail trade and in manufacturing contributed to a record high in FDI inflows in 2017. Luxury brand retailers and MNEs opened more stores across the region, encouraged by a conducive environment, with the growth in middle-class consumers and increasing income, and steady economic growth. Asian retailers such as those from Japan and the Republic of Korea expanded, opening more supermarkets, malls and stores in host countries and new countries in ASEAN. Some have continued to build and open more stores in 2018, with more planned in the next few years. The increasing digital economy activities in the region also contributed to more e-commerce trade and fintech activities by ASEAN start-ups and foreign companies.

Investments in manufacturing from ASEAN and Asian (e.g. Japan, the Republic of Korea, China and Hong Kong (China)) sources are expected to remain strong, as witnessed in the past few years. Investments in key services industries (e.g. retail, finance, real estate and construction, and activities related to the digital economy), which are largely driven by market-seeking motives, will continue to grow, reflecting the growth of economies and investment opportunities in the region.

Investment in the extractive industry did well in 2017 but much of it was concentrated in a few Member States endowed with rich natural resources. Investments in this industry can be “lumpy”, and a few large M&A transactions can significantly swing the trend. With improving commodity prices, Member States such as Indonesia and Myanmar will continue to see strong growth in investments in the extractive industry, and those such as the Lao People's Democratic Republic will see continued investment in power generation. Foreign and ASEAN MNEs are expected to remain active in infrastructure activities, given the steady economic and industrial growth, and the commitments of countries in the region to infrastructure development.

Against this background, the prospects for higher FDI flows in ASEAN are promising, as corroborated by various investment and business surveys. For instance, MNEs from the European Union, Japan and the United States plan to increase investment in ASEAN (table 1.13). About 80 per cent of the United States corporate executives with business in ASEAN expect their companies' trade and investment in the region to increase in the next five years. Some 94 per cent of European businesses plan to expand or maintain their current levels of operations, and 86 per cent expect their level of trade and investment in ASEAN to increase over the next five years. European businesses have prospered in ASEAN, with 75 per cent expecting an increase in ASEAN profits and 71 per cent seeing that ASEAN has become more important in terms of global revenues over the last two years. Japanese companies are also planning to expand. About 56 per cent expect to do so in the next one to two years, with 65 per cent of the surveyed companies forecasting profits in 2017.

MNEs see ASEAN as a region with high potential and an attractive location for investment. A number of factors are contributing to this sentiment including the rapid growth of the middle class, an integrating region of more than 640 million people, an improving investment environment with commitment to infrastructure development and complementary location advantages that support regional value chain activities. The region is also witnessing rapid growth in a number of industries, including automotive, electronics, retail businesses and in the digital economy.

Other key drivers for investment in ASEAN include the influence of the AEC and further regional integration. Its importance is underscored by the fact that many European Union companies see free trade agreements (FTAs) as important drivers for their investment decisions. In one survey, some 55 per cent cited a lack of FTAs with ASEAN as having put them in a disadvantaged position.

Table 1.13. Prospects for global investment and business in ASEAN, 2017

Study	Findings
EU-ASEAN Business Sentiment Survey 2017	The EU-ASEAN Business Council surveyed over 300 executives from European companies in Southeast Asia (EU-ASEAN Business Council 2017). Executives were asked about their experiences and future plans in the region. Some key findings: • 75 per cent of European businesses expect an increase in ASEAN profits for 2017 • 71 per cent said ASEAN has become more important in terms of global revenues over the last two years • 94 per cent plan to expand or maintain their current levels of operations in the region • 86 per cent expect their level of trade and investment in ASEAN to increase over the next five years • 88 per cent believe the EU should pursue a region-to-region FTA with ASEAN • 71 per cent see further ASEAN economic integration as an important consideration in their business success in the region
ASEAN Business Outlook Survey (United States) 2018	A report coordinated by American Chamber of Commerce in Singapore and the United States Chamber of Commerce on experiences of American MNEs and their future plans in the region (AmCham Singapore and US Chamber of Commerce 2017). Some key findings: • 48 per cent regard ASEAN as more important for their company in terms of worldwide revenue over the past two years • 58 per cent project ASEAN will increase in importance in terms of worldwide revenue over the next two years • 62 per cent expect increased levels of trade and investment in ASEAN over the next two years • 80 per cent plan to increase their level of trade and investment in ASEAN over the next five years • Key reasons driving investment in the region in the next two years include economic growth, the rise in the middle or consumer class and regional integration • 56 per cent expect higher profits in 2017 compared to 2016, with 74 per cent expecting profits to be higher in 2018 than in 2016
ASEAN Matters for America 2017	The report indicates the following opportunities are likely to see a rise in investment and trade in the region by American companies (East-West Center 2017): • Growth of the middle class – expected to double in size to 334 million by 2030 • ASEAN has over \$2 trillion worth of infrastructure investment opportunities • ASEAN's digital economy is projected to grow by 500 per cent and be worth \$200 billion by 2025
2017 JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania	Survey done by Japanese External Trade Organization (JETRO), to understand the current business activities of Japanese-affiliated companies operating in Asia and Oceania (JETRO 2017). Key findings with regard to ASEAN: • 65 per cent forecasted profit in 2017 • Japanese firms plan to expand operations in ASEAN countries in the next one to two years, as follows: Myanmar – 81 per cent, Viet Nam – 69 per cent, Lao PDR – 67 per cent, Philippines – 63 per cent, Cambodia – 58 per cent, Indonesia – 51 per cent, Malaysia – 51 per cent, Thailand – 47 per cent, Singapore – 46 per cent
PwC's 2017 APEC CEO Survey: The ASEAN Report	A survey with 1,412 respondents and in-depth interviews with CEOs and other top corporate officers and business specialists (PwC 2017). Key findings in relation to ASEAN: • 58 per cent plan to increase business investments in ASEAN in 2018 • 72 per cent see an increase in investment in the region over the next three years • Drivers of investment are progress towards free trade across ASEAN and the promising economic growth outlook

Sources: Respective reports.

NOTES

- ¹ FDI in the region from unspecified sources increased by nearly 300 per cent, from \$6.9 billion in 2016 to \$27.7 billion in 2017. Some \$18.7 billion was reported in Singapore and \$6.8 billion in the Philippines. Unspecified sources include data suppressed to protect companies from being identified as part of the data protection arrangement.
- ² <https://www.chevron.com/stories/chevron-announces-sale-of-geothermal-operations> and <https://uk.reuters.com/article/us-chevron-sale-geothermal/indonesia-philippine-groups-acquire-chevrons-3-billion-geothermal-assets-idUKKBN14C0OW>
- ³ At the beginning of 2017, Nissan (Japan) and its local partner, Tan Chong Motor, started assembling a new model. Nittsu Logistics Myanmar, owned by Nippon Express (Japan), opened its logistics warehouse at the Thilawa Logistics Center in June 2017.
- ⁴ As at end-March 2018, nearly 40 companies in the zone are in operations; the total investment in the 2017/18 fiscal year was estimated at \$400 million (www.mizzima.com/business-domestic/fdi-flow-2017-18-%E2%80%98exceeded-target%E2%80%99-says-mic).
- ⁵ Nikkei Asian Review, “Japan returns as top investor in Vietnam”, 28 December 2017 (<https://asia.nikkei.com/Economy/Japan-returns-as-top-investor-in-Vietnam>).
- ⁶ <http://www.bworldonline.com/content.php?id=142716>.
- ⁷ <http://www.theedgemarkets.com/article/sime-darby-completes-indonesia-land-buy>.
- ⁸ See Euromonitor International (2017), “Research and Development in Indonesia: ISIC 73”, Euromonitor International Ltd.
- ⁹ <https://www.bangkokpost.com/business/news/1424110/alibaba-hub-to-launch-next-month>.

CHAPTER 2

Australian FDI and MNEs in ASEAN

2.1. INTRODUCTION

Following the tradition of examining trends in FDI development and corporate investment activities from ASEAN Dialogue Partners, this issue of the *ASEAN Investment Report* focuses on Australian FDI and the operations of Australian corporations in ASEAN.

Australia is an important ASEAN Dialogue Partner and ASEAN is a significant destination for Australian companies engaged in international business operations (trade and investment). Australia's economic relationship with ASEAN has a long history and has recently strengthened through free trade area (FTA) agreements in force with three ASEAN countries (i.e. Malaysia, Singapore and Thailand) and the ASEAN–Australia–New Zealand Free Trade Agreement (AANZFTA) (in force since 2012). Australia is also a participating member in the ongoing negotiation of the Regional Comprehensive Economic Partnership (RCEP) Agreement with 15 countries, including all ASEAN Member States. These recent economic developments have important implications for bilateral investment and business ties.

The purpose of this chapter is to examine Australian FDI flows and the operations of Australian companies in ASEAN. It does not cover trade issues or detailed analysis of regional agreements involving Australia and ASEAN, significant issues that warrant a separate, comprehensive analysis. It presents analyses of Australian FDI trends and the activities of Australian MNEs in a wide range of industries in all three sectors – manufacturing, extractive and services – in the region. It also offers an analysis of the top 75 Australian MNEs with subsidiaries in ASEAN and the merger and acquisition (M&A) activities of Australian companies. The chapter also explains the key drivers and motivations of Australian investment and the prospects for such investment in ASEAN.

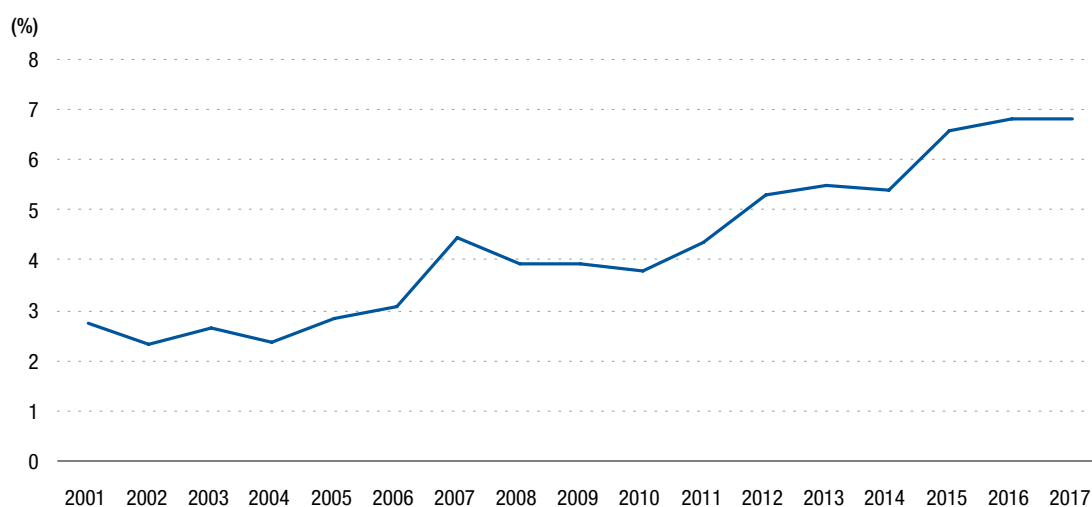
Australian MNEs (e.g. QBE Insurance and BHP Billiton a major mining company) have had long relationships with ASEAN countries, dating back to at least 1850s.¹ Australia also has a long economic ties with ASEAN countries. One of the oldest economic relationships, between Australia and Malaysia, can be traced to the 19th century, when Malaysians participated in the pearl industry off Australia.² In the 20th century, Australian companies were involved in the Malaysian tin and rubber industry.³ One of the oldest Australian MNEs in Malaysia is QBE, which entered the Malaysian market in 1905.⁴

Given its geographical proximity, Indonesia has also been significant for Australian business. The Australian government appointed its first Trade Commissioner to Indonesia in 1935. The levels of Australian investment into Indonesia have risen since the late 1980s (Hill 1990), driven by improving economic relations between the two countries and the establishment of the Australian Chamber of Commerce Indonesia in 1989 (which no longer exist). In 2015, the Australian trade minister called for 750 more Australian companies to invest in Indonesia,⁵ and the two countries have concluded negotiation of an FTA in 2018.⁶ Some Australian companies that have deep historical ties in Indonesia were not owned by Australian entities at their founding. For instance, Billiton, now part of BHP Billiton, has its roots in a tin mine started on Billiton (Belitung) Island, Sumatra in 1851.⁷

2.2. AUSTRALIAN FDI TRENDS AND DEVELOPMENT IN ASEAN

Australian companies have thus been investing in ASEAN for more than a century, albeit concentrated in a few countries in the region. Proprietary advantages (e.g. in mining operations and finance activities), investment opportunities and geographical proximity have now led many major Australian companies to establish a presence in multiple ASEAN countries. Australian FDI in ASEAN has generally been on the rise, and the ASEAN share of Australia's global outward FDI (OFDI) stock has been increasing (figure 2.1). Australian companies in the region are mostly located in Singapore.

Figure 2.1. ASEAN share of Australian global outward FDI stock, 2001–2017 (Per cent)



Source: Australian Bureau of Statistics.

In recent years, Australian OFDI stock in ASEAN rose by 85 per cent, from \$17.0 billion in 2010 to \$31.4 billion in 2017, led by strong investment in services industries such as finance and banking (figure 2.2).

2.2.1. FDI stocks and flows

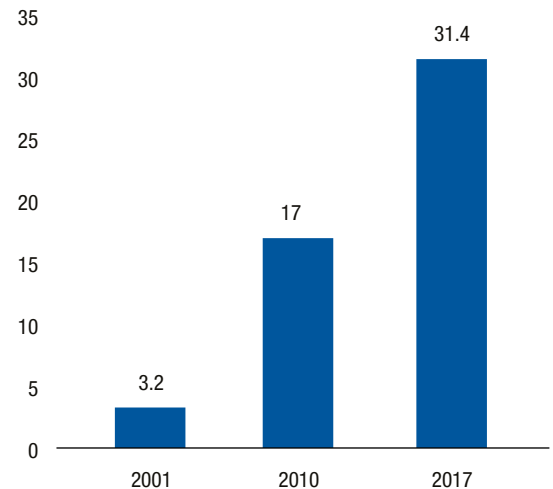
ASEAN is rising in importance as a destination for Australian investment and businesses, which is one aspect of the growing ASEAN-Australia relationship. About 7 per cent of Australia's global OFDI stock in 2017 was in ASEAN, up from just 4 per cent in 2010.⁸ This number is not small when compared with the respective share of global OFDI stock in ASEAN of the European Union (2 per cent), the United States (5 per cent) and China (6 per cent) (*AIR 2015, 2016, 2017*). Australia is the 11th largest investor in the region (table 2.1).

Australia is thus a modest investor in the region compared with major sources such as Japan, the United States and some European Union countries. Potential areas of growth could come from greater investment cooperation, greater business-to-business development and regular promotion of investment opportunities to Australian businesses. In addition, the AANZFTA, the ongoing negotiation of the RCEP and various bilateral FTAs with ASEAN Member States will bolster ASEAN-Australia investment ties and further encourage two-way investments between ASEAN and Australia.

ASEAN attracted some \$22 billion in investment from Australia between 2010 and 2017 (\$26 billion between 1995 and 2017), with particularly strong growth since 2010, driven by significant investment in services. During this period, Australian FDI flows presented a number of features (figure 2.3):

- In the second half of the 1990s, flows to ASEAN were generally small, and affected by the 1997–1998 Asian financial crisis. Australian companies' divestments in 1998 and 1999 contributed to a

Figure 2.2. Australian FDI stock in ASEAN, selected years (Billions of dollars)



Source: Australian Bureau of Statistics.

Table 2.1. Top 15 investors in ASEAN, cumulative 2010–2017 (Millions of dollars and per cent)

	Value (\$ millions)	Share (%)
Intra-ASEAN	169,525	17.9
United States	120,988	12.8
Japan	113,779	12.0
China	60,415	6.4
Netherlands	49,095	5.2
Hong Kong (China)	46,199	4.9
Luxembourg	39,924	4.2
Republic of Korea	34,288	3.6
United Kingdom	34,121	3.6
Ireland	22,430	2.4
Australia	21,531	2.3
Taiwan Province of China	17,510	1.9
India	16,378	1.7
Canada	12,340	1.3
Switzerland	10,193	1.1
Total cumulative FDI in ASEAN	945,919	81.3

Source: ASEAN Secretariat, ASEAN FDI database.

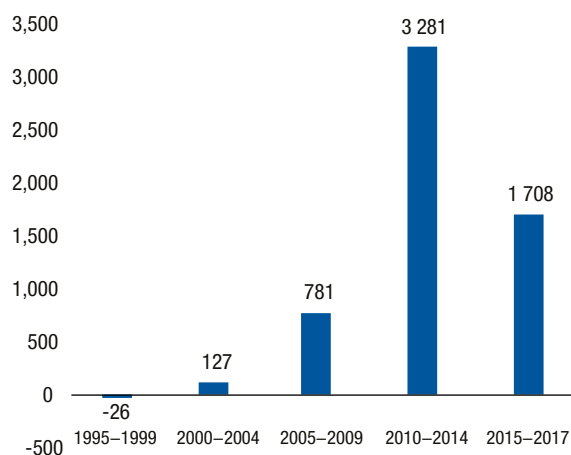
decline in annual average flows of -\$26 million during this period. Most of the divestment took place in operations in Indonesia and Singapore.

- Flows in 2000–2004 continued to be affected by divestments from operations in Indonesia (2000–2001) and Singapore (2000). The small value of FDI activities also contributed to the low annual average flows of \$127 million in this period.
- In 2005–2007 flows started to grow more rapidly, with investment exceeding \$2 billion for the first time in 2007. They fell in 2008–2009, due to the impact of the global financial crisis, which affected the investment plans of Australian companies in the region and globally. However, the annual average flows in this period rose by more than five times over those of the preceding period.
- Australian FDI peaked in 2010–2014, with annual average flows of \$3.3 billion – more than four times the size recorded in 2005–2009. This period, with the exception of 2012, witnessed an annual series of large investment flows not seen in previous periods. In 2010, flows in ASEAN bounced back, to \$4 billion, and in 2011 reached an all-time high (\$5 billion), primarily because of a robust rise in investment in finance in Singapore to nearly \$4 billion. Flows dipped in 2012 to \$752 million then continued to rise in the two subsequent years to reach \$4.5 billion in 2014. A 365 per cent increase in FDI in finance activities, from \$884 million in 2013 to \$4.1 billion, contributed to the strong position in 2014.
- Australia’s annual average FDI flows in 2015–2017 fell by nearly 50 per cent compared with the preceding period because of a \$2.1 billion divestment in services in 2015, which contributed to a 68 per cent decline in inflows that year – from \$4.5 billion to \$1.4 billion.

Flows rose in 2016, and in 2017 reached \$2.1 billion. The dominant wholesale and retail trade (accounting for 75 per cent of Australian FDI flows) and a first-time mega-M&A purchase exceeding \$1 billion (by Macquarie in an energy asset in the Philippines in 2017) pushed up inflows.

Australian FDI in ASEAN is concentrated in a few countries, primarily Singapore, followed by Indonesia and Thailand. These three countries accounted for more than 90 per cent of Australian cumulative FDI flows in ASEAN between 1995 and 2017 (table 2.2). Indonesia and Malaysia have both seen falls in Australian investments since 2013, in part because of a slowdown in Australian investment in manufacturing. Some Australian MNEs invest in Singapore as their regional headquarters to oversee their operations in the region or from which to invest in other ASEAN countries. For instance, TelstraTelkom joint venture

Figure 2.3. Australian FDI flows in ASEAN, annual average, selected periods (Millions of dollars)



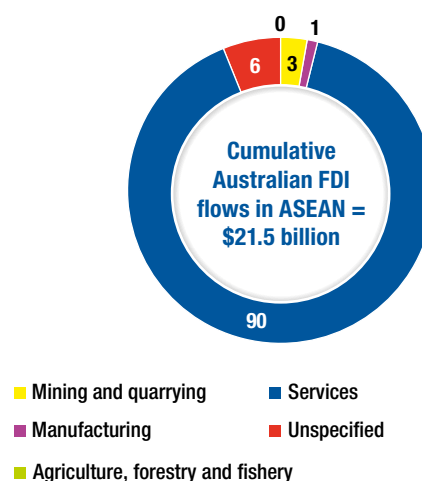
Source: ASEAN Secretariat, ASEAN FDI database.

in Indonesia was financed by Telstra operations based in Singapore.

In terms of industry distribution, Australian FDI in ASEAN is heavily concentrated in services, in particular in banking, insurance, and wholesale and retail trade (figure 2.4, table 2.3). Other notable services industries receiving FDI include real estate, construction and logistics. The services industry also dominated Australia FDI flows into the region in the 1990s. The extractive sector has been another important target. Australian FDI in agriculture and forestry is negligible.

Australian manufacturing FDI in ASEAN has been small and fluctuates between years. There has also been a shift away from investing in manufacturing towards the dominant services sector (*AIR 2017*). A regional divestment of -\$882 million in manufacturing FDI in 2012 was mainly fueled by a -\$1.4 billion divestment of Australian manufacturing in Singapore.

Figure 2.4. Industry distribution of Australian FDI flows in ASEAN, cumulative 2010–2017 (Per cent)



Source: ASEAN Secretariat, ASEAN FDI database.

Table 2.2. Australian FDI flows in ASEAN, annual average and cumulative, 1995–2017 (Millions of dollars)

	Annual average					Cumulative
	1995–1999	2000–2004	2005–2009	2010–2014	2015–2017	1995–2017
Brunei Darussalam	9	0	0	2	-1	51
Cambodia	-	0	19	27	33	323
Indonesia	-20	-12	278	381	34	3,242
Lao PDR	3	4	3	5	7	95
Malaysia	75	3	77	140	-164	984
Myanmar	1	1	0	4	1	32
Philippines	17	3	0	62	22	474
Singapore	-163	82	326	2,480	1,383	17,769
Thailand	45	32	43	137	261	2,067
Viet Nam	7	13	35	46	133	902
ASEAN annual average	-26	127	781	3,281	1,708	25,937

Source: ASEAN Secretariat, ASEAN FDI database.

Table 2.3. Australian FDI flows in ASEAN, by industry, 2010–2017 (Millions of dollars)

	2010	2011	2012	2013	2014	2015	2016	2017	Cumulative 2010–2017
Agriculture, forestry and fishery	3	3	5	3	10	3	1	3	30
Mining and quarrying	27	14	14	194	217	34	-116	192	577
Manufacturing	-73	196	-822	516	-82	53	443	-50	180
Construction	37	356	-116	161	19	-110	55	1	403
Wholesale and retail trade; repair of motor vehicles and motorcycles	..	..	-573	27	302	3,323	-53	1,583	4,609
Transportation and storage	..	..	326	112	199	-77	-135	34	459
Financial and Insurance activities	1,929	4,007	913	884	4,112	283	-385	670	12,413
Real estate activities	131	84	118	-16	166	-17	140	108	713
Professional, scientific and technical activities	..	..	161	-3	-28	-11	8	-1	126
Other services	450	-66	51	77	-122	-2,074	1,595	-442	-531
Unspecified	49	489	675	231	-275	41	22	3	1,231
Memorandum:									
Trade, hotels and restaurants	1,406	-89	..	..	..	..	..	..	1,317
Total	3,958	4,994	752	2,185	4,517	1,449	1,575	2,100	21,526

Source: ASEAN Secretariat, ASEAN FDI database.

There are differences in the direction of Australian FDI in the region. Depending on industries and types of FDI, Australian investments tend to locate in certain ASEAN countries: for instance, investment in extractive industries and construction in Indonesia; banking and finance in various major ASEAN countries (with a significant share in Singapore); and information technology and business process outsourcing (IT-BPO) services in the Philippines. These trends are influenced by certain locational considerations such as resource endowment, ecosystem, cluster benefits, regional administrative functions and economic growth or market factors in the host country. For these reasons, certain industries in some ASEAN countries attract proportionately more Australian FDI (table 2.4).

Table 2.4. Australian FDI flows in ASEAN, by selected indicators, cumulative 2010–2017

Industry	Top three ASEAN country recipients of Australian FDI flows	Cumulative Australian FDI flows in the top three ASEAN countries (\$ millions)
Agriculture	Cambodia, Viet Nam, Indonesia	23
Mining and quarrying	Indonesia, Thailand, Malaysia	519
Manufacturing	Viet Nam, Philippines, Thailand	701
Services	Singapore, Thailand, Indonesia	10,647
<i>of which:</i>		
Finance and insurance	Singapore, Thailand, Malaysia	6,172
Wholesale and retail trade	Singapore, Indonesia, Viet Nam	4,685
Real estate	Thailand, Singapore, Malaysia	462
Construction	Indonesia, Cambodia, Viet Nam	122

Source: ASEAN Secretariat, ASEAN FDI database.

Notable aspects of Australian investment in ASEAN by industry and host location include the following:

- The high level of investment in Singapore in 2007, 2010, 2011, 2014 and 2016 was due to large increases in Australian FDI in finance and insurance activities, which also influenced the regional trend. In 2012, Singapore recorded a -\$449 million divestment due to the sale of Australian manufacturing assets.
- Mining investment was dominant in Indonesia between 2014 and 2017, with a significant rise in the latter year. Mining was the industry that received the largest investments of Australian FDI during this period. However, nearly -\$100 million in divestment occurred in 2016. In earlier years, between 2006 and 2010, Australia invested most heavily in the wholesale and retail trade, including in the hospitality industry in Indonesia. FDI in manufacturing has been negligible.
- Annual Australian FDI flows to Viet Nam have been small but are increasing. Manufacturing has been the primary target.
- Australia is not a significant investor in the Philippines. Between 2005 and 2017 Australian FDI in that host country was negligible, except in 2012, when Australian MNEs invested some \$240 million in manufacturing, the single largest industry recipient that year. There are now more than 300 Australian companies in the Philippines. The lack of Australian oil and gas operations in the country is partly due to a moratorium on mining exploration permits.
- Annual FDI flows from Australia into Malaysia were not large in 2005–2010. In some years they were negligible, and in 2007–2008 they were less than \$100 million. In 2012, flows rose significantly to a peak of \$539 million, fuelled by strong investment in finance and in manufacturing. Overall, however, Australian manufacturing FDI in Malaysia has been small and has witnessed significant divestment in recent years. This declining trend has contributed to the negative annual FDI flows from Australia into this host country since 2014.
- Annual FDI flows from Australia into Thailand have also not been large and did not exceed \$125 million between 2005 and 2011. Since then, the largest flows were recorded in 2015, led by nearly \$600 million in investment in finance, which accounted for 87 per cent of all Australian FDI flows to Thailand that year.

2.2.2. Divestments

Divestment of Australian MNE activities in ASEAN has affected the level of Australia FDI flows in the region, explaining the fluctuations in annual FDI (table 2.5). However, net Australian investment in the region has remained strong in recent years. In a recent study of Australian business in ASEAN, some 62 per cent of respondents indicated that they had increased their investments in the region over the preceding two years as compared with 6 per cent who had reduced their investments (AustCham Singapore and AustCham ASEAN 2017). The reasons for divestment varies by company and industry. In some cases, they divested because of a low return on investment or to focus on their core business. For example, Secos Group sold its stake in Akronn (Malaysia) to Itasa Servicios Generales (Spain) to focus on its core business⁹

Table 2.5. Divestment of Australian activities in ASEAN, various years (Selected cases)

MNE	Industry/ activity	Host country	Value divested	Year	Name and country of ultimate acquirer	Remarks
Lemarne Corp	Electronic equipment	Malaysia	\$20 million	2011	Paramit Corp (United States)	Acquired 100 per cent of Lemtronics, a Malaysian manufacturer and wholesaler of electronic components
Downer EDI	Integrated services	Singapore	\$146 million	2012	China Architecture Design & Research Group (China)	Acquired the Asia business of Downer EDI
Newcrest Mining	Mining	Indonesia	\$160 million	2012	Aneka Tambang (Indonesia)	Acquired a stake in Nusa Halmahera Minerals
BlueScope Steel	Steel	Indonesia	\$680 million	2013	Nippon Steel Corp (Japan)	Acquired a 50 per cent interest in ASEAN building products business (mainly in Indonesia, with assets in Thailand, Malaysia and Viet Nam)
Carnarvon Petroleum	Petroleum	Thailand	\$32 million	2014	Loyd Thailand Oil (Singapore)	Acquired a 20 per cent interest in onshore concessions
Intrepid Mines	Mining	Indonesia	\$80 million	2014	Kendall Court Resources Investments (Singapore)	Acquired the Tujuh Bukit project of Intrepid Mines
Finders Resources	Mining	Indonesia	\$45 million	2014	Daewoo International (Republic of Korea)	Acquired a 24.1 per cent stake in Batutua Tembaga Raya
Henderson Marine Base	Shipping	Singapore	\$20 million	2014	Triyards Holdings (Singapore)	Acquired the entire share capital of Strategic Marine, a shipbuilding company
Coca-Cola Amatil	Beverages	Indonesia	\$500 million	2015	Coca-Cola Co (United States)	Acquired a 29.4 per cent stake in Coca-Cola Amatil Indonesia
Carnarvon Petroleum	Petroleum	Thailand	\$58 million	2015	Berlanga Thailand (Netherlands)	Acquired a 20 per cent stake in Carnarvon Petroleum assets in Thailand
Otto Energy	Energy	Philippines	\$108 million	2015	Nido Petroleum (Thailand)	Acquired Gaboc Production
Australia and New Zealand Banking Group	Bank	Singapore	..	2016	DBS (Singapore)	Sold its Asian retail banking and wealth business operations in Singapore, Hong Kong (China), China, Taiwan Province of China and Indonesia
Cooper Energy	Oil and gas	Indonesia	\$4 million	2016	Bass Strait Oil Company (Australia)	Sold 55 per cent stake in the Tangai Sukananti project
Australian Worldwide Exploration	Oil and gas	Indonesia	\$20 million	2016	HyOil (Singapore)	Sold 42.5 per cent stake in the Bulu production-sharing contract
Secos Group	Packaging	Malaysia	..	2016	Itasa Servicios Generales (Spain)	Sold stake in a Malaysian joint venture company, Akrom Industries
BHP Billiton	Mining	Indonesia	\$120 million	2016	Adaro (Indonesia)	Sold 75 per cent interest in IndoMet Coal mine
Origin Energy	Energy	Indonesia	\$30 million	2016	KS Orka Renewables (Singapore)	Sold 50 per cent stake in OTP Geothermal
Australia and New Zealand Banking Group	Bank	Viet Nam	..	2017	Shinhan Bank (Republic of Korea)	Acquired retail business in Viet Nam
National Australia Bank	Bank	Singapore	..	2017	OCBC Bank (Singapore)	Acquired the private wealth business in Singapore and Hong Kong (China)
Austral Malaysian Mining	Mining	Malaysia	..	2017	CNMIC Goldmine Holdings (Singapore)	Acquired a 51 per cent interest in Pulau Mining, which is jointly owned by Austral Malaysian Mining
Insurance Australia Group	Insurance	Indonesia, Thailand, Viet Nam	\$525 million	2018	Tokio Marine (Japan)	Sold operations in Indonesia, Thailand and Viet Nam
Elders	Agribusiness	Indonesia	..	2018	PT Pramana Austindo Mahardika (Indonesia)	Acquired Indonesian operations and shifted toward export focus
Santos	Energy	Indonesia, Malaysia, Viet Nam	\$221 million	2018	Ophir Energy (United Kingdom)	Sold assets in blocks in Indonesia, Malaysia and Viet Nam

Sources: UNCTAD M&A database, news articles, and company press releases.

and Elders' divestment in Indonesia came about due to challenging market conditions and insufficient return on capital.¹⁰ In certain manufacturing cases, Australia companies divest or reduce operations because of increasing cost in host countries.

In some countries, intense competition – in both the mining and finance industries – has pushed Australian companies to divest so as to focus on key markets and core business areas. In the mining, banking and insurance industries, firms need a significant presence and investment to stay competitive, while larger players continue to create high barriers to entry. Companies may also have other goals – as in the acquisition by DBS (Singapore) of Australia and New Zealand Banking Group assets, so as to expand rapidly into the Indonesian market – which would be difficult to achieve without an acquisition.¹¹ The Australia and New Zealand Banking Group divested from the Asian market in general to boost its surplus for investors.¹² Some mining companies divested part of their interests to concentrate on projects that offer higher returns in other geographical areas. For instance, BHP Billiton divested a 75 per cent interest in an IndoMet Coal mine in Indonesia. Origin Energy decided to divest in Indonesia to reduce its debt and focus on its core businesses in energy markets and integrated gas.¹³

2.3. AUSTRALIAN MNEs

Some 60 per cent of the 100 largest Australian companies measured by assets have subsidiaries in ASEAN, which is testament to the importance of the region as an investment destination for Australian MNEs. These companies are involved in a wide range of industries, from extractive and manufacturing to services activities; however, mining and metals, oil-related operations and financial services dominate the list. The strength of Australian companies in these industries and their drive towards internationalization, together with investment opportunities and the geographical proximity of ASEAN, have contributed to this corporate investment pattern.

The 40 per cent of Australian firms that do not have a presence in ASEAN tend to remain domestically based in Australia or invest in countries with close cultural and historical ties (e.g. the United Kingdom, New Zealand). Although they do not invest directly in ASEAN, some of these Australian companies do engage in non-investment-based activities with the region, such as exporting or sourcing. For instance, Wesfarmers has investments in Indonesia and Singapore; although it does not have investment in Malaysia, Thailand and Viet Nam, these three ASEAN countries play an important role in the company's value chain activities, facilitated by its sourcing activities and supplier networks.¹⁴ Jam maker Beerenberg exports its products to Brunei Darussalam, Indonesia, Malaysia, Singapore, Thailand and Viet Nam without having a physical presence in these countries, and Arctic Steel sells its products in Singapore without engaging in FDI. These 40 per cent of Australian largest companies are potential sources of additional Australian investment in ASEAN.

Table 2.6 presents the top 75 Australian companies with investment in ASEAN. Most of them are in finance, mining and metals, oil and gas, insurance, chemicals and similar activities (figure 2.5). There are also other emerging industries in which Australian MNEs have established a growing presence, albeit smaller in number. They include health care services (e.g. Ramsay Health Care Ltd, Healthscope Ltd and Primary Health Care Ltd) and education services.

Table 2.6. Top 75 Australian MNEs with presence in ASEAN, ranked by assets, 2010 and 2016 (Millions of dollars)

Rank	Name	Industry	Total Assets (\$ millions)		Presence in ASEAN countries
			2010	2016	
1	Commonwealth Bank of Australia	Banks	715,320	749,660	Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
2	Australia & New Zealand Banking Group	Banks	513,412	701,064	Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
3	Westpac Banking Corp	Banks	597,008	643,080	Indonesia, Lao PDR, Malaysia, Philippines, Singapore, Thailand
4	Macquarie Group Ltd	Capital markets	163,225	139,828	Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
5	BHP Billiton Ltd	Metals and mining	102,920	117,006	Indonesia, Malaysia, Philippines, Singapore
6	BHP Billiton Plc	Metals and mining	102,920	117,006	Indonesia, Malaysia, Philippines, Singapore
7	AMP Ltd	Financial services	93,721	101,081	Malaysia, Singapore
8	Rio Tinto	Metals and mining	112,773	89,263	Indonesia, Lao PDR, Malaysia, Philippines, Singapore
9	Suncorp Group Ltd	Insurance	102,268	74,560	Indonesia, Singapore
10	QBE Insurance Group Ltd	Insurance	41,386	41,583	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
11	Telstra Corp Ltd	Telecommunication	40,605	32,350	Indonesia, Malaysia, Philippines, Thailand
12	Wesfarmers Ltd	Food and staples retailing	43,712	30,800	Indonesia, Singapore
13	Woodside Petroleum Ltd	Oil, gas and consumable fuels	20,196	24,753	Malaysia, Myanmar, Singapore
14	Origin Energy Ltd	Oil, gas and consumable fuels	28,810	19,348	Singapore, Viet Nam
15	Fortescue Metals Group Ltd	Metals and mining	8,627	19,115	Singapore
16	Challenger Ltd	Financial services	19,103	17,668	Singapore
17	Santos Ltd	Oil, gas and consumable fuels	14,087	15,262	Singapore, Viet Nam
18	Stockland	Real estate investment	15,606	13,433	Singapore
19	Qantas Airways Ltd	Airlines	22,339	13,222	Indonesia, Philippines, Singapore, Thailand, Viet Nam
20	Newcrest Mining Ltd	Metals and mining	17,282	11,583	Indonesia, Singapore
21	Goodman Group	Real estate investment	8,102	9,760	Singapore
22	CSL Ltd	Biotechnology	5,428	9,123	Singapore
23	Amcor Ltd	Containers and packaging	11,700	9,083	Indonesia, Singapore, Thailand
24	Brambles Ltd	Commercial services and supplies	7,768	7,748	Singapore
25	Aurizon Holdings Ltd	Road and rail	9,865	7,560	Malaysia, Singapore
26	BlueScope Steel Ltd	Metals and mining	8,346	7,352	Brunei Darussalam, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
27	Boral Ltd	Construction materials	6,070	7,151	Indonesia, Malaysia, Philippines, Thailand, Viet Nam
28	Incitec Pivot Ltd	Chemicals	6,093	6,651	Indonesia, Malaysia, Singapore
29	Ramsay Health Care Ltd	Health care	3,804	6,400	Indonesia, Malaysia
30	Downer EDI Ltd	Commercial services	3,974	5,823	Indonesia, Malaysia, Singapore, Thailand, Viet Nam
31	Orica Ltd	Chemicals	6,749	5,054	Indonesia, Malaysia, Philippines, Singapore, Thailand
32	Virgin Australia Holdings Ltd	Airlines	4,114	4,880	Singapore
33	Coca-Cola Amatil Ltd	Beverages	5,400	4,673	Singapore, Indonesia
34	Treasury Wine Estates Ltd	Beverages	3,967	4,053	Singapore
35	Computershare Ltd	IT services	2,873	3,947	Malaysia
36	Star Entertainment Group Ltd	Hotels, restaurants and leisure	4,168	3,851	Singapore
37	Caltex Australia Ltd	Oil, gas and consumable fuels	5,413	3,827	Singapore
38	Seven Group Holdings Ltd	Trading	5,166	3,713	Indonesia
39	Healthscope Ltd	Health care	3,573	3,609	Malaysia, Singapore, Viet Nam

/...

Table 2.6. Top 75 Australian MNEs with presence in ASEAN, ranked by assets, 2010 and 2016 (Millions of dollars) (Concluded)

Rank	Name	Industry	Total Assets (\$ millions)		Presence in ASEAN countries
			2010	2016	
40	WorleyParsons Ltd	Energy equipment and services	4,087	3,270	Malaysia
41	Washington H Soul Pattinson & Co	Oil, gas and consumable fuels	3,876	3,262	Malaysia, Singapore
42	Harvey Norman Holdings Ltd	Multiline retail	4,288	3,217	Malaysia, Singapore
43	TPG Telecom Ltd	Telecommunication	867	2,861	Philippines
44	SEEK Ltd	Professional services	1,040	2,828	Indonesia, Philippines, Singapore, Thailand,
45	Qube Holdings Ltd	Transportation Infrastructure	943	2,827	Indonesia, Malaysia, Singapore
46	Nufarm Ltd/Australia	Chemicals	2,797	2,626	Indonesia, Malaysia, Singapore
47	Cromwell Property Group	Real estate investment	1,649	2,619	Singapore
48	Orora Ltd	Containers and packaging	..	2,582	Singapore
49	Flight Centre Travel Group Ltd	Hotels, restaurants and leisure	2,062	2,453	Malaysia, Singapore, Thailand, Viet Nam
50	Ansell Ltd	Health care equipment and supplies	1,303	2,451	Malaysia, Singapore, Thailand, and Viet Nam
51	Primary Health Care Ltd	Health care	4,097	2,391	Singapore
52	IOOF Holdings Ltd	Capital markets	2,204	2,112	Indonesia, Singapore Thailand
53	Brickworks Ltd	Construction materials	2,047	1,910	Malaysia, Singapore
54	OZ Minerals Ltd	Metals and mining	3,465	1,899	Singapore
55	Iluka Resources Ltd	Metals and mining	1,985	1,763	Singapore
56	ALS Ltd	Professional services	1,214	1,644	Cambodia, Malaysia, Singapore, Thailand
57	CSR Ltd	Construction materials	2,339	1,603	Indonesia, Malaysia, Singapore
58	Beach Energy Ltd	Oil, gas and consumable fuels	1,701	1,454	Indonesia, Singapore
59	Mineral Resources Ltd	Metals and mining	1,039	1,409	Philippines
60	Steadfast Group Ltd	Insurance	..	1,382	Singapore
61	Adelaide Brighton Ltd	Construction materials	1,363	1,318	Malaysia
62	Atlassian Corp Plc	Software	..	1,284	Philippines
63	Premier Investments Ltd	Specialty retail	1,304	1,262	Malaysia, Singapore
64	Link Administration Holdings Ltd	IT services	..	947	Brunei Darussalam, Malaysia, Singapore
65	Dulux Group Ltd	Chemicals	555	916	Indonesia, Malaysia, Myanmar, Singapore, Viet Nam
66	Cochlear Ltd	Health care equipment and supplies	794	872	Malaysia, Singapore
67	Nib holdings Ltd	Insurance	685	872	Thailand
68	Pendal Group Ltd	Capital markets	314	699	Singapore
69	Corporate Travel Management Ltd	Hotels, restaurants and leisure	63	568	Singapore
70	carsales.com Ltd	Internet software	148	414	Indonesia, Malaysia, Thailand
71	Blackmores Ltd	Personal products	164	316	Indonesia, Malaysia, Singapore, Thailand
72	WiseTech Global Ltd	Software	..	212	Singapore, Philippines
73	Altium Ltd	Software	29	211	Viet Nam
74	IDP Education Ltd	Consumer services	..	184	Thailand
75	Bellamy's Australia Ltd	Food products	..	120	Singapore

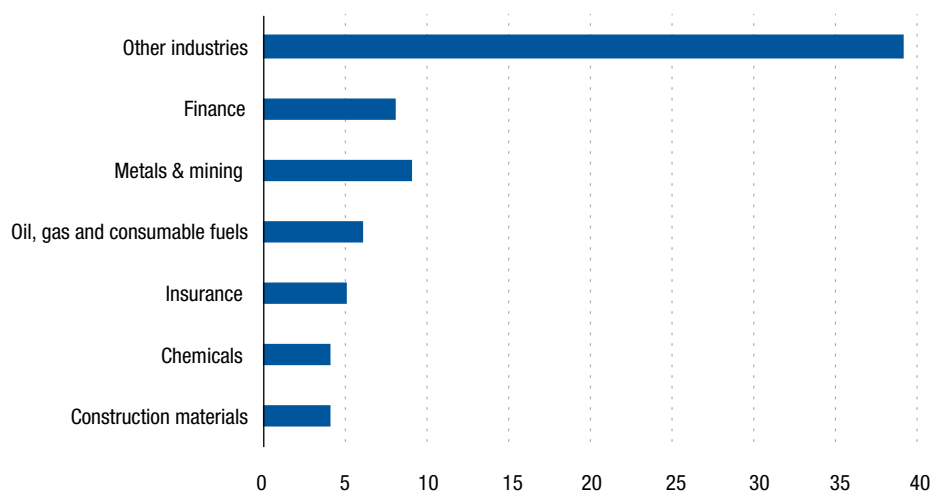
Sources: Based on Bloomberg, Orbis and company websites.

Note: Ranked by 2016 global assets of companies.

A majority of the top 75 MNEs operate in more than two ASEAN countries and 30 of them operate in three or more countries (figure 2.6). The Australia and New Zealand Banking Group, for instance, is present in nine. Some 29 of these MNEs operate in just one country. This is not to say that these MNEs engage in only one ASEAN country. Some use one ASEAN country as a base to conduct business in other Member States (section 2.4.3). Much of this single-country operation strategy is influenced by the MNE's investment orientation (i.e. whether aiming at selling or marketing in the host country or using the host country as a base to expand into other ASEAN countries (the trade route)). For example, Treasury Wine Estates uses Singapore as a base for coordinating sales to other ASEAN countries, and Nufarm uses Malaysia¹⁵ as a

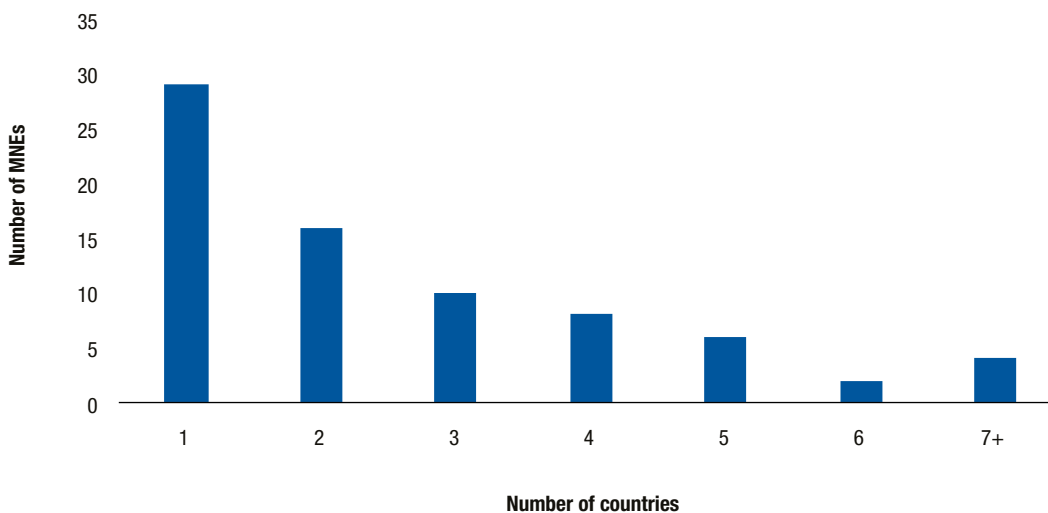
base to sell into Singapore. Graincorp, a producer of grain and other commodities, exports its products across ASEAN, maintaining only one sales office, in Singapore.

Figure 2.5. Industry distribution of the top 75 Australian MNEs in ASEAN (Number)



Source: Based on table 2.6.

Figure 2.6. The top 75 Australian MNEs in ASEAN: Presence in number of ASEAN countries (Number)



Source: Based on table 2.6.

This process of internationalization of Australian companies is typical, starting with establishing sales or distributorship arrangements or opening a representative office in a host country. As the business gains experience in operating in overseas markets or as it grows, it then embarks on establishing a more significant presence through direct investment (e.g. a manufacturing facility, a branch or a subsidiary) (Forsgren 2002; Johanson and Vahlne 2009).

In manufacturing, four companies each operate in the chemicals industry and the construction materials industry; the rest of the largest Australian MNEs in ASEAN operate in a diverse range of industries. These operations vary by host country in different value chain segments or in a broader spectrum of value chain activities in the industry they serve. For instance, the Australian Commonwealth Bank in Singapore focuses more on commercial banking, whereas in other ASEAN countries, such as Indonesia, it focuses more on consumer banking.¹⁶ Some companies operate in ASEAN countries to provide strategic support services to a group of companies operating in the region. Cochlear, a medical devices company, set up an information technology centre in Malaysia to support the activities of its other subsidiaries. After having operated in an ASEAN country, some Australian MNEs have evolved their activities. Packaging company Amcor moved from a sales and marketing operation in the Philippines to undertake manufacturing in that host country. Many Australian companies select ASEAN Member States to be their regional headquarters or undertake production for export to other ASEAN countries. For example, Malaysia is the regional headquarters for the paint manufacturer DuluxGroup, with production exported to Brunei Darussalam, Indonesia, Singapore and Viet Nam.

2.4. SECTORAL ACTIVITIES OF AUSTRALIAN MNEs

2.4.1. Extractive industries

2.4.1.1 Oil and gas

Oil and gas FDI into ASEAN is mainly dominated by large MNEs such as Woodside Petroleum, Origin Energy and Santos. Australian companies have contributed to the development of these industries in countries such as Indonesia and the Philippines. They are involved in a significant number of oil and gas projects in the region. One example is Australian Worldwide Exploration (AWE), which has operations in Indonesia. These operations include exploration in the East Java Sea, where AWE is conducting a two-dimensional seismic survey and holds a 50 per cent interest in the Northwest Natuna Sea oil project. Cue Energy Resources, an oil and gas exploration and production company, has investments in Indonesia. It is also involved in production and exploration activities in Indonesia in the East Java Basin, with Australian Santos as the operator of the project. Cue Energy Resources has a 100 per cent working interest in the Kutei Basin in Indonesia through its Indonesian subsidiary Cue Kalimantan, which is the operator of an exploration of the Mahakam Hilir production-sharing contract. Together with Bukit Energy, Cue acquired a 12.5 per cent interest in the Mahato production-sharing contract, onshore in Central Sumatra, in 2014. In 2017, Range Resources

expanded its operations in Indonesia through a 23 per cent acquisition in the Perlak field from PT Hengtai Weiye Oil and Gas for \$3.2 million. In the Philippines, NIDO Petroleum has had an oil production company since 1985. It has undertaken the collection of seismic data on petroleum blocks and provided drilling services in the Philippines. Otto Energy in 2016 pulled out of the Palawan Basin because one of the exploration projects was found to be too small to develop. That project was done in conjunction with an Australian partner, Red Emperor,¹⁷ which participated in a \$25 million exploration and maintains a stake in the basin. Other disinvestments in the Philippines included the 2014 acquisition by Alsons Group (Philippines) of Indophil Resources (Australia).

When Myanmar opened its oil and gas market to foreign investors in 2013, Woodside Petroleum (Australia) was one of the first movers and has contributed to several exploration activities. In 2017, the company was responsible for three natural gas discoveries through offshore drilling. It has an administrative and coordinating office in Singapore.

In 2013, Pacific Hunt Energy was awarded two production-sharing contracts for onshore oil blocks by Myanma Oil and Gas Enterprise, and in 2017 it undertook additional drilling and exploration projects with two local companies. Santos has been active in Indonesia since the 1990s and in Viet Nam since 2006. It holds a 20 per cent stake in a deep-water block in Malaysia. In Indonesia, Santos has four projects, including the Peluang gas project, which started production in 2014. The company also has a stake in two basins in Viet Nam. Tap Oil has a 30 per cent interest in a concession in the Manora oil field in Thailand, which began production in 2014, while Roc Oil has a 30 per cent participating interest in a production-sharing contract offshore of Malaysia. Origin Energy had previously undertaken exploration projects in Indonesia but sold its interests in a geothermal project in 2016 to OTP Geothermal (Singapore) for \$30 million.

Australian companies have also contributed to operations in the extractive or mining value chain in ASEAN, such as providing engineering and prospecting services. For instance, Neptune, a marine engineering company, has offices in Singapore and Indonesia. In 2015, it completed a displacement pile grouting project in Malaysia for Hyundai Heavy Industries (Japan). Neptune has also operated in Viet Nam and in Thailand through an alliance with Beacon SubSea Ltd (Australia).

2.4.1.2. Minerals

The largest mining companies in ASEAN are from Australia. They include large MNEs such as BHP Billiton and Rio Tinto. These vertically integrated companies are involved in downstream and upstream activities in host countries, from extraction (e.g. BHP Billiton in Indonesia) to marketing and distribution (e.g. Iluka Resources in Indonesia). In Indonesia, Rio Tinto holds a 40 per cent stake in Freeport Indonesia, which owns one of the largest copper and gold mines in the world, and Newcrest holds a 75 per cent stake in PT Nusa Halmahera Minerals, which in turn owns and operates Gosowong, which has a processing plant that produces gold and silver doré. In the Philippines, Oceana Gold owns and operates the high-grade gold and copper Didipio Mine. Steel maker BlueScope Steel operates in several ASEAN countries. For

instance, in Thailand and Malaysia it manufactures steel products for local and export markets, in Indonesia it manufactures zinc and aluminium metallic coated and preprinted steel, and in Viet Nam has a \$105 million flat-steel metallic coating and painting facility. It also has distribution and marketing offices in Brunei Darussalam, Indonesia, the Philippines and Singapore. Coal Fe Ltd acquired significant stakes in iron-ore and coal projects in Indonesia in 2014. This included a \$6.5 million acquisition agreement for a 65 per cent interest in PT Mineral Sukses Makmur (Indonesia), which owned a significant iron-ore project.

Large mining companies such as BHP Billiton have dedicated business units for mining, processing, logistics and marketing. Other mining companies rely on third parties, known as mining equipment, technology and services (METS) companies. Indonesia is one of the leading export destinations for Australian METS companies, with at least 140 such companies.¹⁸

There are also specialized Australian METS companies. For instance, fuel-management company Banlaw has provided services to projects in Indonesia, the Philippines and Thailand. Technomics, an analyst of lubricants for mining machinery, has been contracted by large Australian and non-Australian companies undertaking projects in ASEAN. APS Lighting & Safety Products, a heavy equipment and industrial supplier, has supplied vehicles for mines in Indonesia, and equipment provider Hawk Measurement Systems has helped support mining projects in the region. Sedgman, a provider of mineral processing and associated infrastructure solutions, has completed projects across ASEAN. For instance, the company provided engineering services and commissioning support for a copper and gold mine near Thailand, working with PanAust Ltd (Australia). It carried out design, equipment tendering and supplier recommendations for the projects, and has undertaken contracts in Indonesia. MacMahon Holdings, a civil engineering company, has completed large mining projects in both Indonesia and Malaysia, including an ongoing contract in Malaysia commissioned by Lafarge (France) for \$60 million, which started in 2003 and is due to be completed in 2020.

2.4.2. Services industries

2.4.2.1. Insurance

Some of the largest Australian insurance companies have been in the region for a long time. QBE Insurance Group has a long history in Indonesia, Malaysia and Singapore, dating back more than 100 years. Today, it is one of the largest insurance companies in these countries. The group has been present in the Philippines since 1999 through an acquisition and later with a joint venture operation. It entered Viet Nam with a representative office in 1995 and established a subsidiary through a joint venture in 1999. QBE has further expanded in these ASEAN countries through various M&As in the past 20 years. Insurance Australia Group has been in Thailand since 1985, offering both commercial and personal insurance services in that host country. It expanded into Malaysia in 2012 through a joint venture and has several branches across Viet Nam and Indonesia. Steadfast Group has established an office in Singapore and affiliated brokers in Malaysia, the Philippines, Thailand and Viet Nam. In 2017, the group announced plans to expand in these countries.

2.4.2.2. Banking

Australian banks were also among the earliest foreign financial institutions to establish a presence in ASEAN. The Commonwealth Bank of Australia established a presence in Singapore in 1982 to focus on providing financial services to Australia and New Zealand companies with a presence in Asia and private banking services to local and expatriate professionals in that host country. The bank has been operating in Indonesia for 15 years, where it now has more than 80 branches and employs more than 1,500 people. It has a representative office in Viet Nam. Westpac Banking Corporation has located its Asian headquarters in Singapore and established branches in Indonesia. The Australia and New Zealand Banking Group is present in nine ASEAN countries (Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar (representative office), the Philippines, Singapore, Thailand (representative office) and Viet Nam). However, in 2016, the group sold its Asian retail banking and wealth businesses, which cover operations in Singapore and Indonesia (as well as Hong Kong (China), China, and Taiwan Province of China) to DBS (Singapore). The group also sold its retail business in Viet Nam to Shinhan Bank (Republic of Korea).

The National Australia Bank, a private wealth business in Singapore, was sold to Oversea-Chinese Banking Corporation (Singapore) in 2017. Prior to the acquisition, the bank specialized in providing financial services to private clients and focused on global institutional banking operations. It opened a representative office in Indonesia in 2012 and in Viet Nam in 2014. It also has a presence in Malaysia and the Philippines through strategic partnerships with local and foreign investors. Macquarie Group expanded into Thailand in 2005 through a joint venture with the Thai Military Bank. The operation focuses on stockbroking, equity research, equity capital markets, corporate finance and infrastructure funds management. It has eight divisions in Singapore and an investment presence in Indonesia, Malaysia and the Philippines.

2.4.2.3. Engineering and infrastructure

The presence of Australian companies in activities related to engineering, construction and infrastructure in the region is not surprising. Their skills and experience in managing engineering projects, including those related to mining operations, have encouraged them to internationalize. The strong economic growth and rapid infrastructure development in ASEAN have attracted many of these companies to set up operations and pursue contracts in the region. WorleyParsons, an engineering company, has offices in Indonesia, Singapore and Thailand, and four in Malaysia. Leighton Asia (a subsidiary of the CIMIC Group) has projects in Indonesia, Malaysia, the Philippines, Singapore and Thailand. In Indonesia, it is involved in a \$6.8 million civil and infrastructure project for the mining company Vale (Brazil). In the Philippines, the company is associated with a \$201 million rail construction project for the Manila North Tollways Corporation (Philippines) and two civil engineering projects for the Land Transport Authority in Singapore.

The Aurecon Group has offices in Indonesia, the Philippines, Singapore, Thailand and Viet Nam. Some of its engineering and infrastructure projects include the development of seaports in Indonesia, design and documentation of the downstream works for the Nam Theun II

hydropower project in Lao People's Democratic Republic and development of port facilities in Myanmar through a joint venture with the Halcrow Group (United Kingdom). Aurecon has also been involved with structural engineering work for tall buildings in the Philippines, Thailand and Singapore. Other Australian companies associated with engineering and infrastructure activities in the Philippines include GDH, Macquarie and Telstra. In Viet Nam, the group developed a number of infrastructural projects (e.g. the Nhon Trach 2 power plant, Hanoi International Airport's Terminal 2 and the Ban Phuc Nickel Mine project). Other engineering companies with a presence in ASEAN include PDC Engineering, which has an office in the Philippines, and Jimmy Lea, with an office in Singapore.

2.4.2.4. Retail

In recent years, Australian retail companies have an increasing presence in ASEAN. Premier Investments has a presence through its fashion brands in the region. For instance, its brand Just Group (formerly known as Just Jeans) operates in Singapore and its Smiggle brand in Malaysia and Singapore. Smiggle opened its first store in Malaysia in 2016 and in Singapore in 2015, and has since rolled out several more stores in these countries. In 2016, it announced plans to have 50 stores in Malaysia within five years. Clothing retailer The Cotton Group, has 23 stores in Indonesia, 76 in Malaysia, 46 in Philippines, 82 in Singapore and 15 in Thailand. In 2014, the group established its Asian headquarters in Singapore. Forever New expanded in Singapore in 2011. G&M Cosmetic, a skincare company, opened its first outlets in Viet Nam in 2018 and plans to use that country as a base to export into Cambodia, Lao People's Democratic Republic and Myanmar.¹⁹ The company currently exports to Thailand and Singapore but does not have any outlets in these countries. Flight Centre Travel Group, a retail travel outlet, has branches across Singapore. In 2017, it acquired Bespoke Hospitality Management Asia (Thailand), which has 14 properties in Thailand and other properties under development in both Thailand and Viet Nam. Blackmores, a health supplements company, operates stores in Indonesia through a joint venture with Kalbe Farma (Indonesia). The company has sales offices in Malaysia and Thailand, with Singapore being home to the company's Asia-Pacific international headquarters. Boost Juice Bars has expanded its presence in ASEAN through franchising, expanding into Brunei Darussalam, Indonesia, Malaysia and Singapore.

2.4.2.5. Digital activities

Australian start-ups are also expanding into ASEAN, with Singapore attracting many of these companies (table 2.7). The conducive ecosystem of Singapore, competitive financial environment for fund raising and host-country policy support have helped attract Australian and non-Australian start-ups to establish a presence there (chapter 4). The Australian Government initiative that supports start-ups to go global also plays a role in this trend.²⁰ For instance, the Government supports an accelerator programme, Landing Pad, which helps Australian start-ups expand overseas.²¹

Given the growth in smartphone usage, Internet access and application uptake in ASEAN, Australian technology companies are expanding into the region. Some companies that

Table 2.7. Australian start-ups in ASEAN, various years
(Selected cases)

Name	Industry	Country
Anatomics	Medical technology	Singapore (2017)
Cindicium	Logistics and supply chain	Singapore (2017)
CEC System	Logistics and supply chain	Singapore (2018)
Atlassian	Enterprise software	Philippines (2018)
Canva	Graphic design	Philippines (2014)
Freelancer	Crowdsourcing marketplace	Indonesia (2016) Philippines (2011)
Hipflask	Events	Singapore (2017)
Go1	Education	Malaysia (2015) Viet Nam (2015)
GreenSync	Energy	Singapore (2015)
Niesm	Health	Singapore (2016)
Openlearning	E-learning	Malaysia (2014)
Play2Lead	Skills and learning	Singapore (2014)
PrepEd	Education	Philippines
Shootsta	Video	Singapore (2018)
The Dream Collective	Training	Singapore (2017)
Shippit	Shipping	Singapore (2016)
CurrencyVue	Fintech	Singapore (2017)
Assembly Payments	Fintech	Singapore (2017)
Gemstar	Accelerator programme	Singapore (2016) Viet Nam (2018)
Page up	Human resources	Philippines (2015) Singapore (1997)
Aconex	Construction management software	Malaysia Philippines Singapore
Verreny	Fintech	Singapore (2017)
Zed Technologies	Health	Singapore (2016)
Whispir	Communications and engagement	Singapore (2017)
ASG Group	IT managed services	Singapore (2014)
Boundlss	Health and life insurers	Singapore (2016)
Immersive Technologies	Mining equipment simulators	Indonesia

Sources: Crunchbase and respective company websites.

have done so include shipping and logistics tech company CEC Systems, which in 2017 entered into a collaboration with the Singapore Institute of Manufacturing Technology (a research institute of the government Agency for Science, Technology and Research) and established an office in Singapore in 2018. Zed Technologies, a medical technology start-up that provides software and workflow solutions for radiology, expanded into Singapore after participating in the Australian Government's accelerator programme.

For some of these companies, Singapore is seen as a springboard into other ASEAN countries. For instance, Zed Technologies is looking for clients in Indonesia, Malaysia and Viet Nam.²² Some digital companies have applications connected to ASEAN countries, without having a physical location in the country, or they use one or two operations in ASEAN countries to coordinate activities in other countries. For instance, Freelancer, a freelancing and crowdsourcing marketplace, has offices in both Indonesia and the Philippines, with the marketplace open to all ASEAN countries. Other digital companies specialize in specific markets and select markets that have high demand. Immersive Technologies, which specializes in mining equipment simulators, expanded into Indonesia to support the company's existing client base in the country.²³ Some companies expand into ASEAN countries to tap the benefits of more efficient ecosystems. Many fintech companies have chosen to expand into Singapore, given that country's strong position in global financial markets and in raising funds. This was one of the main drivers for Verreny, CurrencyVue and Assembly Payments each to expand into Singapore in 2017.

2.4.2.6. IT-BPO

Australian companies are involved in information technology (IT) enabled services or business process outsourcing (BPO) operations in ASEAN, with a strong interest in countries such as the Philippines. The need to be competitive in providing

cost-effective BPO services to clients or to lower group administrative costs (through shared services) has encouraged Australian companies to move such business process functions abroad (table 2.8).

The decision on where to locate the operations for this type of efficiency-seeking investment (that is, to keep costs low) is also influenced by the host country's specific advantages, such as an ample supply of low-cost, skilled-language or IT-knowledgeable labour. The favourable policies and ecosystem of the host countries in supporting the development of an efficient BPO industry are also important FDI determinants. For instance, both the QBE Insurance Group and the BHP Group established BPO subsidiaries in the Philippines to provide such services for group members. Companies have also established BPO operations abroad (e.g. in the Philippines) to be close to clients and to benefit from sharing experiences of common business challenges (*AIR 2017*).

Australian IT-BPO companies are moving up the value chain and transitioning into more complex activities and data analysis rather than voice operations (call centres). They are also expanding to other regions within the country (e.g. Clark) to access workers, talent and reduce operation cost.

Table 2.8. Australian companies involved in BPO operations in the Philippines, various years (Selected cases)

Name	Activity	Industry	Year registered
Employers Mutual Group	BPO, primarily concentrated on supporting the processing of worker's compensation claims in New South Wales	BPO	2012
Firstmac Operations Centre	IT-enabled services such as human capital management, office management, business process improvement, management advisory and consultancy	BPO	2014
QBE Group Shared Services	IT-enabled BPO operations	BPO	2013
Satellite Office Solutions	BPO services operations, particularly the provision of BPO staffing services, IT help desk and technical support, recruitment services, payroll compliance support	BPO	2017
Advanced Credit Management	Call centre services, both inbound and outbound to Australian affiliate companies on accounts requiring collection activity	Call centres	2012
Boutique Outsource Solutions	IT-enabled services, such as human capital management, IT support and help desk, office management, business process improvement, management advisory and consultancy	Call centres	2015
Creditcorp Inc	Call centre specializing in collection services	Call centres	2010
Galilee Business Support Services	Call centre and BPO services	Call centres	2010
Harbour IT Asia	Technical support and software development	Call centres	2013
Loanworks Technologies	BPO, call centre, software development and application	Call centres	2017
Multirational Corp	Contact IT development services, BPO and call centre services	Call centres	2009
Oraclecms International	Call centre and BPO services	Call centres	2013
Ringside Marketing Corp	BPO and call centre services	Call centres	2016
Erbas Asia	IT-enabled technical design services of all kinds to clients primarily located in Australia	Engineering, architectural and other design services	2014
A.S. White	Software development and technical support services	Software development	2013
Appen Services	Human-annotated images for the development of automated image classifiers	Software development	2017
Orenj BPO	Software development, call centre and administrative support	Software development	2012
PTO Media Services	Graphic production services	Software development	2013
Dreamscape Networks (JV with local)	Web hosting and domain registration	BPO	2013

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Table 2.8. Australian companies involved in BPO operations in the Philippines, various years (Selected cases) (Concluded)

Name	Activity	Industry	Year registered
Arcojorney International (JV with local)	Architectural design and outsourcing	Engineering, architectural and other design services	2014
PDC Asia-Pacific	BPO services (engineering design)	Engineering, architectural and other design services	2016
Cloud Plus Services	BPO-exporting knowledge-based and computer-enabled services such as maintaining production and internal networks and system, and other related BPO activities	BPO	2016
NRG Global Solutions	Call centre services for debt collection	Call centres	2009
Servtech Global	BPO - Back office administrative services (data entry, contact processing, appointment setting)	Data encoding, transcribing and related services	2018
Oxley Customer Care	BPO services, particularly human resources, outsource accounting support services, client liaison services	BPO	2011
Ascentri	BPO, mainly in the areas of accounting, programming and web design	Software development	2016
Infocus Multimedia and Business Solutions	BPO, particularly media publishing, graphic design, layout designing, web design, accounting support and customer care	Multimedia graphics, animation, printing and other services	2012
Fxdms	Non-voice BPO services	Data encoding, transcribing and related services	2013
Campaign Track	Graphic and web-based services	Software development	2013
Acquire Asia Pacific	BPO for information, support, lead generation and other related services, including inbound and outbound calling	Call centres	2014
Shadow Solutions Group Asia	Software development and customer support	Software development	2015
Global Learning Support	Customer service centre for customers in the Australian market comprising call centre operations and BPO services	Call centres	2014
WCP Supplies Asia Pacific Corp	Knowledge-based and computer-enabled services	BPO	2013
Creative Outsourcing	Knowledge-based and computer-enabled services	BPO	2012
Omega Partners Resourcing	BPO and back office support primarily for foreign clients	BPO	2012
RDC International	BPO and exporting knowledge-based and computer-enabled services	BPO	2015
Qualify Me Corp	Outsourced customer support services, including customer acquisition, customer care, and technical support, primarily through phone and e-mail	Call centres	2017
Oreon Partners	BPO, knowledge-based and computer-enabled services	BPO	2015
Axiem Corp	BPO for business development, customer support, documentation, marketing, product development, risk and compliance and web development	Call centres	2013
WL Outsourcing	Database administration, web development and accounting support services	Software development	2012
Probe Group	BPO including contact centre services (voice and non-voice) specifically for credit management, debt collection and other related services	Call centres	2015
Freelancer.Com	Online customer and technical support to clients who are subsidiaries and affiliates of parent company	BPO	2014
People Partners BPO	BPO, customer support, back office and administrative support services to businesses situated outside of the Philippines	BPO	2015
ANZ Global Services and Operations	BPO, call centre services and technology support hub services for ANZ Group's global operations	BPO	2010
BHP Shared Services Philippines	IT-enabled and back office support services	BPO	2017
Remote Staff	Staff hosting, BPO and e-commerce business	BPO	2012
4D Systems	Research and development, technical and engineering support services	IT research and development	2016

Sources: PEZA.

2.4.2.7. Other services

Australian companies that have competitive strengths in other types of services, such as health care and education, have also expanded into ASEAN. Their business models and their possession of competitive skills or know-how have encouraged them to venture to the region, including through joint venture arrangements. Major health care service providers include Healthscope, a private company that is a major community pathology provider in Malaysia and Singapore (chapter 1). The company has been in Malaysia since 1996 and in Singapore since 1995. It has a smaller presence in Viet Nam. Ramsay Health Care formed a joint venture with Sime Darby (Malaysia) in 2013. The joint venture, Ramsay Sime Darby Health Care, combined Sime Darby's health care assets in Malaysia with Ramsay's three Indonesian hospitals, with the aim of expanding their portfolio across Asia.

In education and knowledge-related activities, companies such as the William Angliss Institute, a training services company for the tourism, hospitality and food industries, have established centres for training in Singapore. The Institute's centre provides training for both domestic and international students. It has also established joint venture campuses in Malaysia and Thailand. Angliss Consulting provides tourism and hospitality consultancy activities in all countries in ASEAN.²⁴ Australian universities have expanded into ASEAN by opening campuses. Five Australian universities have set up campuses in Singapore, three have done so in Malaysia and one in Viet Nam. The Swinburne University of Technology, for example, expanded into Malaysia and the Royal Melbourne Institute of Technology has campuses in Viet Nam. In 1998, Monash University established a campus in Malaysia, its first internationally; today the campus has more than 4,500 students and 500 staff members.

2.4.3. Manufacturing industries

Australian FDI in manufacturing in ASEAN has remained small. The market-serving strategies of Australian manufacturing companies in relation to ASEAN vary. For instance, many Australian companies not profiled in this section undertake manufacturing operations in Australia and then export to ASEAN countries. Their connections with ASEAN countries are through trade channels, or through export and local distribution agents. Some expand into one or two ASEAN countries and then use these countries as a base to sell to other ASEAN countries – a more common strategy. Others have operations in several ASEAN countries at the same time.

2.4.3.1. Chemicals

Australian chemical companies operate in a few countries in ASEAN. Many see the region as offering opportunities to sell their products and diversify their market bases.²⁵ Dulux, a paint company, has manufacturing plants in Malaysia to produce its Acratex texture coatings. It has been in the country since 1999, and Malaysia is now the site of its head office for South-East Asia. The products manufactured there are exported to other Asian countries, including Brunei Darussalam, Indonesia, Singapore and Viet Nam, as well as New Zealand. It has offices in Cambodia, Lao People's Democratic Republic, Myanmar, the Philippines, Singapore, Thailand

and Viet Nam. Incitec Pivot specializes in industrial chemicals, fertilisers and explosives. It owns and operates plants in Indonesia and has a joint venture operation in Malaysia. Nufarm, an agricultural chemical company, has factories located in Indonesia and several representatives across the country. It is now one of the largest agrochemical companies in Indonesia. Nufarm has been in Malaysia since 1992 and uses that host country as a base to sell into Singapore.²⁶ Orica, which specializes in the manufacturing and distribution of commercial blasting systems, has a presence in Indonesia, Malaysia, the Philippines, Singapore and Viet Nam. The conglomerate Wesfarmers has offices in both Indonesia and Singapore, and some of its main suppliers are in Indonesia, Malaysia, Thailand and Viet Nam.

2.4.3.2. Building materials

A few large Australian building material companies conduct activities in ASEAN; however, the majority of these firms in ASEAN are domestic. Boral manufactures and supplies building and construction materials, and through USG Boral, a joint venture with USG Corporation (United States), has a presence in several ASEAN countries. Its Asian headquarters, corporate innovation centre and research and development (R&D) centre are in Malaysia, where it carries out research, testing, materials analysis and pilot operations. The company also has a significant production presence in Viet Nam for manufacturing gypsum board. In 2017, the company announced that it would expand in Viet Nam with a \$20 million plant, to increase production capacity there. The company also carries out production activities in Indonesia and has a presence in the Philippines and Singapore. CSR has operations in Indonesia and undertakes commercial activities in Singapore. Adelaide Brighton has operated in Malaysia since purchasing a 30 per cent stake in Aalborg Portland Malaysia (Denmark) for \$29.7 million in 2012.

2.4.3.3. Food and beverages

In the food and beverages industry, Coca-Cola Amatil (one of the largest bottlers and distributors in the Asia-Pacific) has significant investments in Indonesia. It holds a 70.6 per cent stake with the Coca-Cola Company (United States) in a joint venture entity (Coca-Cola Amatil Indonesia). The joint venture has eight manufacturing facilities and employs more than 11,000 people. Pact Group Holdings, a plastic and metal manufacturer, is a supplier of packaging to Indonesia, the Philippines, Singapore and Thailand. In 2017, the group acquired Closure Systems International and Graham Packaging's Asian division, which included operations in the Philippines, from Reynolds Packaging (United States). The acquisition helped the company access a manufacturing plant and expand its foothold in the host country.

CBH, a grain company, formed a joint venture with the Salim Group (Indonesia) in 2005 and established Interflour in Singapore. CBH continued to expand its presence in ASEAN in 2017 by opening up a \$30 million mill in the Philippines and starting a \$70 million malt processing factory in Viet Nam. The company also own mills in Malaysia and Indonesia. Another grain company, Grain Corporation, has an international office in Singapore. Blackmores, the vitamin and dietary supplements company, first entered Singapore before expanding into Malaysia and Thailand. The Thai market is Blackmores' second largest in Asia after China. Blackmores entered Indonesia in 2015 through a joint venture with PT Kalbe Farma (Indonesia).²⁷

Ricegrowers Ltd, a rice producer and exporter to ASEAN countries, has a physical presence in Singapore and Viet Nam. In 2017, the company expanded its rice-sourcing operation through the establishment of Sunrice Viet Nam.

2.4.3.4. Other manufacturing activities

Australian companies are also involved in other manufacturing industries in ASEAN. Packaging company Amcor has manufacturing operations in Indonesia, Malaysia, the Philippines and Thailand. It also established an Asia-Pacific head office in Singapore. The company further expanded its operations in Indonesia in 2016 with a \$7.2 million manufacturing plant and in the same year opened its first manufacturing plant in the Philippines, to produce flexible packaging materials. In addition to engaging with greenfield investment, Amcor acquired Bella Prima Packaging (Indonesia) for \$27 million in 2014 and through that acquisition gained immediate access to two plants in that country.

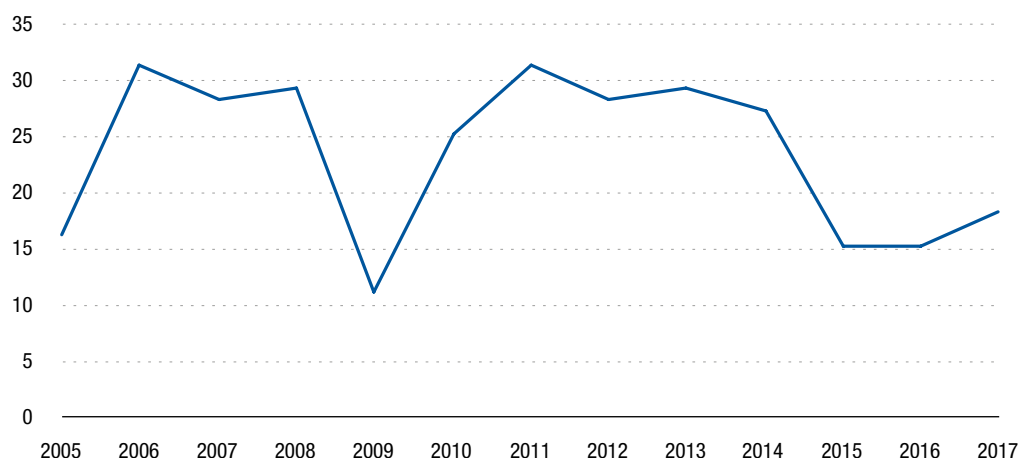
Ansell, a health care equipment company, has manufacturing facilities in Malaysia, Singapore, Thailand and Viet Nam. It expanded into Viet Nam through the acquisition of Midas (Republic of Korea) in 2013. Another medical devices company, Cochlear, has also expanded in ASEAN over the last few years, not in manufacturing but for BPO activities. Cochlear also operates in Singapore and has ASEAN-wide distributors. It has sale offices in Indonesia, Malaysia, Thailand and Viet Nam. The company further expanded into Malaysia in 2012 with its Information and Communication Technology Centre, and in 2015 it opened the Cochlear Training and Experience Centre in Indonesia. The regional centre provides training programs to workers from other ASEAN countries on using their products. Ego Pharmaceuticals has a long history of exporting into Malaysia and Singapore. It has gradually increased its investment in the region, from a distributor operation to sales offices in Malaysia and Singapore to establishment of an office each in Brunei Darussalam and Indonesia.

2.5. MERGERS AND ACQUISITIONS

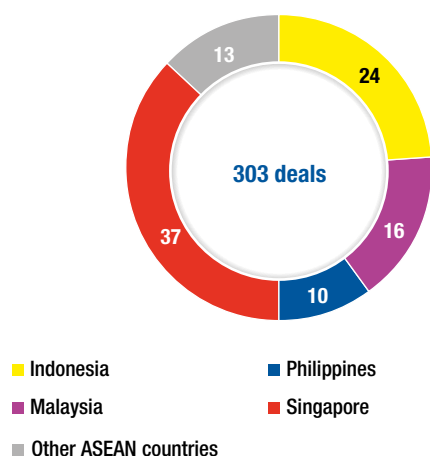
Cross-border M&A activities by Australian companies in ASEAN have generally been low (in terms of value and number of deals). Australian companies made fewer than 16 M&A deals per year in the region between 2015 and 2017 (figure 2.7). This suggests that greenfield investments in ASEAN have been a preferred mode of entry for Australian companies. The M&A channel is used to acquire strategic assets in the finance and extractive industries.

Australian M&A activities in ASEAN have fluctuated in the last two decades, but the number of deals each year has been small, ranging from just 11 deals in 2009 to 31 in 2011 and 18 in 2017. Between 2005 and 2017 there were only 303 deals (an annual average of 23). The number of megadeals exceeding \$500 million is also small.

In 2017, a megadeal exceeding \$1 billion for the first time help pushed up FDI flows. It involved Macquarie's \$1.3 billion acquisition of a 31.7 per cent stake in the Energy Development Corporation in the Philippines. This single megadeal accounted for about 97 per cent of the value of all Australian M&A activities in ASEAN in 2017.

Figure 2.7. Australian M&A deals in ASEAN, 2005–2017 (Number of deals)

Source: UNCTAD M&A database.

Figure 2.8. Distribution of Australia M&A deals in ASEAN, 2005–2017 (Per cent)

Source: UNCTAD M&A database.

Australian M&A purchases in ASEAN are mainly concentrated in the major economies (Singapore, Indonesia, Malaysia), in part because of the relatively more mature M&A environment in these Member States (figure 2.8). Although Australian M&As in ASEAN cover different industries, many are in extractive and services activities, with very few in manufacturing (table 2.9, annex table 2.1).

In finance and banking, the Australia and New Zealand Banking Group purchased a stake in AMMB Holdings (Malaysia) for \$357 million in 2007. Other Australian banks have also been active. The Commonwealth Bank of Australia acquired a stake in the Vietnam International Commercial Joint Stock Bank for \$55 million in 2011, and the ANZ Banking Group increased its stake in the ANZ Panin Bank in Indonesia to 99 per cent in the same year. Given the high barriers to entry in the banking sector, M&As provide Australian companies with strategic and quick access to markets in the region or host country. For banks and finance companies, the need to establish a strong presence in a relatively short period of time favours M&As when the opportunity arise.

Table 2.9. Australian M&A deals in extractive industry in ASEAN, various years (Selected cases)

Ultimate acquiring company	Target company	Target nation	Target industry	Year	Value (\$ millions)	Shares acquired (%)	Shares owned after (%)
Investor Group (EMR Capital Group and Farallon Capital Management)	G-Resources Grp Ltd – Martabe gold mine in Indonesia	Indonesia	Gold ores	2016	775	95	95
Straits Resources	Separi Energi PT	Indonesia	Bituminous coal and lignite surface mining	2007	410	100	100
Kangaroo Resources	Bayan Resources – Pakar Coal Project & Assets	Indonesia	Bituminous coal and lignite surface mining	2011	278	100	100
Santos	AVE Ltd – Ande Ande Lumut Oil Project	Indonesia	Crude petroleum and natural gas	2013	188	50	50
Agincourt Resources	Newmont South East Asia Pte Ltd	Singapore	Gold ores	2006	77	95	95
CGA Mining	Benguet Corp – King-king Copper-Gold Project, Davao	Philippines	Gold ores	2010	70	60	60
Otto Energy	Galoc Production Co WLL	Philippines	Crude petroleum and natural gas	2011	54	68.62	100
Renaissance Minerals	OZ Minerals (Cambodia) Ltd	Cambodia	Gold ores	2012	45	100	100
AVE	Genting Oil Natuna, Sanyen Oil & Gas Pte Ltd	Singapore	Crude petroleum and natural gas	2012	39	100	100
Cape Range Wireless	Metro Consolidated (S) Pte Ltd	Singapore	Bituminous coal and lignite surface mining	2008	26	80	100
Altura Mining	Delta Ultima Coal PT	Indonesia	Bituminous coal and lignite surface mining	2013	25	33.3	33.3
Indophil Resources	Tampakan Copper-Gold Project, South Cotabato	Philippines	Copper ores	2008	24	5	37.5
Otto Energy	Galoc Production Co WLL	Philippines	Crude petroleum and natural gas	2007	19	31.4	31.4
AED Oil	Nations Petroleum (SE Asia) Ltd	Brunei	Crude petroleum and natural gas	2010	16	100	100
Red Mountain Mining	Mindoro Resources Ltd – Gold & Copper-Gold Assets	Darussalam	Crude petroleum and natural gas	2010	14	100	100
Strike Resources	Berau Coal Project	Philippines	Gold ores	2012	14	100	100
Agri Energy	Triton Petroleum Pte Ltd	Indonesia	Bituminous coal and lignite surface mining	2008	14	70	100
Kangaroo Resources	SouthGobi Energy Resources – Indonesian Mining Assets	Singapore	Crude petroleum and natural gas	2011	12	77	77
Medusa Mining	Davao Philsaga Holdings Inc	Indonesia	Bituminous coal and lignite surface mining	2010	11	100	100
Bentley International Oil	Borasan Energy Ltd – Philippine Oil Fields (3)	Philippines	Gold ores	2006	10	100	100
AED Oil	Nations Petroleum Co Ltd – Oil & Gas Subsidiaries (2)	Philippines	Crude petroleum and natural gas	2006	10	..	..
Indus Coal	Batanghari Energi Prima PT	Indonesia	Crude petroleum and natural gas	2010	8	100	100
Pan Australian Resources	Phu Bia Mining Ltd	Indonesia	Crude petroleum and natural gas	2013	7	38	38
West Wits Mining	Derewo River Gold Project	Indonesia	Bituminous coal and lignite surface mining	2008	5	10	90
Cokal	Tambung Benua Alam Raya PT	Lao PDR	Copper ores	2011	5	50	50
MEO Australia	Transworld Serway Exploration Ltd	Indonesia	Bituminous coal and lignite surface mining	2013	5	75	75
Paramount Mining Corporation	Cikondang Kencana Prima PT	Indonesia	Crude petroleum and natural gas	2011	5	100	100
Mining Group	Philco Mining Corp – Comval Mining Project, Compostela Valley, Mindanao	Indonesia	Gold ores	2012	5	85	85
Kupang Resources	Undisclosed Indonesian Co, Kupang	Philippines	Gold ores	2012	5	80	80
Mining Group	Cadan Resources Corp – Batoto Gold & Silver Project, Bataan	Indonesia	Gold ores	2013	4	95	95
Realm Resources	Kaires Ltd	Philippines	Gold ores	2012	4	80	80
Range Resources	Hengtai Weiye Oil & Gas PT	Indonesia	Bituminous coal and lignite surface mining	2011	4	100	100
Coal Fe Resources	Mineral Sukses Makmur PT	Indonesia	Crude petroleum and natural gas	2017	3	60	60
Orpheus Energy	Mega Coal International PT – Coal Mines, East Kalimantan (2)	Indonesia	Iron ores	2014	3	90	90
Cape Range Wireless	Metro Consolidated (S) Pte Ltd	Indonesia	Bituminous coal and lignite surface mining	2011	2	51	51
Lincoln Minerals	Samusa Corp – Desa Mirah Kalanaman Iron Ore Mine	Singapore	Bituminous coal and lignite surface mining	2008	2	20	20
Augur Resources	Wonggiri Gold-Copper Project	Indonesia	Iron ores	2009	2	45	45
Newcrest Mining	Bengkulu Utara Gold PT	Indonesia	Gold ores	2012	2	0	51
		Indonesia	Gold ores	2011	2	70	70

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Table 2.9. Australian M&A deals in extractive industry in ASEAN, various years (Selected cases) (Concluded)

Ultimate acquiring company	Target company	Target nation	Target industry	Year	Value (\$ millions)	Shares acquired (%)	Shares owned after (%)
Artist & Entertainment Group	99 Thuanon Co Ltd	Thailand	Bituminous coal and lignite surface mining	2009	2	49.9	49.9
Western Manganese	Genesis Berkati Utama PT	Indonesia	Ferroalloy ores, except vanadium	2013	1	51	51
Prosperity Resources	Mulia Kencana Makmur PT	Indonesia	Gold ores	2012	1	80	80
Sumatra Copper & Gold	Dwinad Nusa Sejahtera PT, Nusa Palapa Minerals PT	Indonesia	Gold ores	2011	1	100	100
Indus Coal	Mukomuko Baratama Sejahtera PT	Indonesia	Bituminous coal and lignite surface mining	2011	1	20	20
NuEnergy Gas	Dart Energy (Indonesia) Holdings Pte Ltd	Singapore	Crude petroleum and natural gas	2015	1	100	100
Prosperity Resources	Multi Mineral Utama PT – Pinang-Pinang Gold Copper Project	Indonesia	Gold ores	2010	1	29	80
Cokai	Silangkop Nusa Raya PT	Indonesia	Bituminous coal and lignite surface mining	2012	1	75.2	75.2
MEO Australia	South Madura Exploration Co Pte Ltd	Indonesia	Crude petroleum and natural gas	2011	1	100	100
Coke Resources	Southern Arc Minerals Inc – Taliwang Project	Indonesia	Gold ores	2013	1	90	90
Santos	Brantas PSC	Indonesia	Crude petroleum and natural gas	2005	..	18	18
Nido Petroleum	Philippine National Oil Co – Service Contract 58	Philippines	Crude petroleum and natural gas	2006	..	50	50
Tap Oil	SC 41, Sandakan Basin	Philippines	Crude petroleum and natural gas	2006	..	85	85
Royalco Resources	Oxiana Philippines Inc	Philippines	Gold ores	2006	..	100	100
Prosperity Resources	Pasifik Masao Mineral PT	Indonesia	Gold ores	2007	..	10	10
Grange Resources	Bukit Iban Iron Ore Project	Malaysia	Iron ores	2007	..	51	51
Oxiana	Padaeng Industry PCL	Thailand	Lead and zinc ores	2007	..	24.9	24.9
Straits Resources	Karbon Mahakam PT	Indonesia	Bituminous coal and lignite surface mining	2007	..	100	100
Rusina Mining	Fire Resources Ltd – Barlo Exploration Tenement	Philippines	Copper ores	2008	..	100	100
Pantai Gold	Area 81/Derewo River Gold Project	Indonesia	Gold ores	2009	..	50	50
Panax Geothermal	Sokoria Geothermal Indonesia PT	Indonesia	Cogeneration, alternative energy sources	2010	..	45	45
Kangaroo Resources	Mamahak Coal Project	Indonesia	Bituminous coal and lignite surface mining	2010	..	15	15
Frontier Gasfields	Service Contract 69	Philippines	Crude petroleum and natural gas	2011	..	15	15
Bundok Resources	Gold-Copper Assets Portfolio (7)	Philippines	Gold ores	2011	..	100	100
Southern Cross Exploration	Batangas Gold Project	Philippines	Gold ores	2011	..	100	100
Adavale Resources	United Energy and Resources Pty Ltd – Tapan & Jambi Thermal Coal Projects	Indonesia	Bituminous coal and lignite surface mining	2011	..	100	100
Robust Resources	JAMIMPL Explorations Phils Inc	Philippines	Gold ores	2011	..	100	100
BHP Billiton	Otto Energy Ltd – SC 55	Philippines	Crude petroleum and natural gas	2011	..	60	60
Origin Energy	Salamander Energy PLC – Block L15/50	Thailand	Crude petroleum and natural gas	2011	..	40	40
Wavenet International	Mineral Indosin PT	Indonesia	Gold ores	2012	..	95	95
Jatenergy	Coal Mining Brick PT	Indonesia	Bituminous coal and lignite surface mining	2012	..	80	80
Wavenet International	Selaup Gold Project	Indonesia	Gold ores	2012	..	100	100
Krakatoa Resources	Dana Ramakala PT	Indonesia	Gold ores	2012	..	80	80
Indus Coal	Berlian Mahkota Coal PT	Indonesia	Bituminous coal and lignite surface mining	2013	..	38	38
GBM Resources	Angka Alamjaya Sdn Bhd	Malaysia	Gold ores	2013	..	40	40
Elysium Resources	Gata Sumbur Daya PT	Indonesia	Copper ores	2013	..	75	75
Northern Mining	Bintang Cipta Persada PT	Indonesia	Gold ores	2014	..	90	90
Santos	Deepwater Block R	Malaysia	Crude petroleum and natural gas	2015	..	20	20

Source: UNCTAD M&A database.

2.6. DRIVERS, MOTIVATION AND STRATEGIES

Like all FDI, Australian FDI in ASEAN can be grouped into four types: resource-seeking, market-seeking, efficiency-seeking and strategic-asset-seeking (table 2.10). FDI motives can differ by industry and the type or purpose of investments. For instance, mining investments are attracted by access to natural resources, manufacturing investments by low-cost operating environments and market factors, and services investments by market- and efficiency-seeking factors. Australian companies could also invest in the region because of opportunities or access to strategic assets through M&As or partnerships.

The abundance of natural resources and high levels of oil and mineral reserves in some ASEAN countries have attracted Australian FDI. The rapid growth of the region and the rising number of middle-class consumers have also encouraged many Australian services MNEs to invest in ASEAN. In addition, the presence of many home- and third-country MNEs has encouraged Australian companies to operate close to them in ASEAN host countries. For instance, the presence of many mining companies in Indonesia has attracted other Australian mining services and engineering companies to follow clients or stay close to the market to operate more efficiently (efficiency-seeking motive).

Rapid economic growth and large populations have also driven Australian MNEs to ASEAN for access to the growing domestic and regional markets. Greater regional economic integration is becoming an important location consideration. Australian MNE investments are also (to a smaller extent) driven by the motive of producing goods or services more competitively.

Australian government policy and encouragement supporting the internationalization of companies have also played a role (e.g. the Landing Pad accelerator programme). The government efforts include provision of information on the investment environment and opportunities in ASEAN, information on ASEAN's regional integration and the various FTAs in development between Australia and ASEAN, and technical cooperation in supporting ASEAN's regional integration (box 2.1).

Table 2.10. Drivers and motivations of Australia FDI in ASEAN

Type of FDI	Determinants	Selected industries and examples
Market-seeking	• Large market size and regional integration • Rapid economic and services growth and prospects • Growing middle-income consumers • Increased spending on infrastructure	Australian companies seeking engineering, construction and infrastructure contracts and concessions. Increasingly more Australian engineering companies are giving attention to ASEAN because of the region's rapid infrastructure development and spending. The region needs at least \$110 billion in investment in infrastructure annually until 2025 (<i>AIR 2015</i>). Australian MNEs such as WorleyParsons and the Aurecon Group are involved in various infrastructure projects, from building construction, railway and civil engineering to power plant construction. Given the attractiveness of the region's market, companies from a diverse range of industries are investing in ASEAN for market-seeking reasons. For example, in the health care industry, Healthscope Ltd is serving the Malaysian, Singaporean and Vietnamese markets. In the retail industry, Premier Investments through its Smiggle brand has stores in Malaysia and Singapore. The Insurance Australia Group is in Indonesia, Malaysia, Thailand and Viet Nam, while the Australia and New Zealand Banking Group has a presence in nine ASEAN countries.
Resource-seeking	• Access to oil reserves, exploration concessions • Access to other natural resource endowments (other minerals and commodities) • Access to land	Worldwide Exploration, Pacific Hunt Energy and Tap Oil each have a significant presence in ASEAN, to obtain access to natural resources. Other mining companies, such as Rio Tinto, BP Billiton and Newcrest, are involved in extractive activities in ASEAN. Australian mining operations are confined to a few ASEAN countries, primarily Indonesia, the Philippines, Thailand and increasingly Myanmar.
Efficiency-seeking	• Supply of low-cost and skilled labour • Supply of low-cost production inputs • Strong industrial cluster	Building material companies Boral, CSR and Adelaide Brighton and chemical companies DuluxGroup, Incitec, Pivot, Nufarm and Orica undertake efficiency-seeking FDI in ASEAN to remain competitive. Some Australian MNEs (e.g. QBE, BHP) have set up IT-BPO operations in the Philippines to provide shared services to members of the group and to keep business processing and administrative costs low. Some Australian IT-BPO companies and software technology firms invest in ASEAN for efficiency-seeking reasons and to better serve third-party or global clients.
Strategic-asset-seeking	• Advanced infrastructure • Strong knowledge economy	Some Australian companies are setting up R&D facilities in some ASEAN countries. CEC Systems has a collaborative partnership with the Singapore Institute of Manufacturing Technology, a research institute of the Government's Agency for Science, Technology and Research. USG Boral has its corporate innovation centre and R&D centre in Malaysia. Australian companies have also been using M&As to acquire strategic assets, particularly in services and mining operations (see section 2.5).

Source: ASEAN Investment Report 2018 research.

Box 2.1. Australia development cooperation with ASEAN

Australia has worked with ASEAN to support economic cooperation through development programmes for nearly 45 years. Since the establishment of the ASEAN–Australia Economic Cooperation Program in 1974, cooperation activities have evolved to keep pace with the economic development in the region and the matured bilateral relationship. The ASEAN–Australia Development Cooperation Program Phase II, its current variant, is a partnership programme between Australia and ASEAN from 2008 to 2019. The current programme provides up to A\$57 million to support ASEAN’s goal in implementing activities for the ASEAN Economic Community. The programme provides economic research and policy advice in priority economic sectors including investment, trade in services, consumer protection, connectivity and financial integration in the region. It also covers other areas relating to ASEAN connectivity and the Initiative for ASEAN Integration (IAI) agenda.

The workstream on investment had been designed to strengthen the capacity of ASEAN Member States (AMS) to implement investment agreements, promote foreign investment, and strengthen knowledge and understanding of investment trends and best practices in the region. The programme fosters more effective dialogue between the private sector and the ASEAN Member States. Among the major programme on investments are production of the annual *ASEAN Investment Report* series on topical and thematic issues in collaboration with UNCTAD, development of an ASEAN investment website and promotion of the ASEAN Comprehensive Investment Agreement to investors.

Source: ASEAN–Australia Development Cooperation Programme II.

2.6.1. Resource-seeking FDI

Resource-seeking FDI by Australian MNEs is concentrated in resource-rich Member States such as Indonesia, Malaysia, Myanmar, the Philippines, Thailand and Viet Nam. Given the strategic nature of the extractive industry, Australian companies have used the M&A channel to acquire assets and gain quick access to natural resources (see table 2.9). Some of the oldest Australian companies in ASEAN are in resource-seeking operations in extractive industries. Most of the projects undertaken by Australian oil and gas companies occur in conjunction with other MNEs and local firms. Pacific Hunt Energy has a drilling and exploration project in Myanmar with two local companies, and Woodside in partnership with Total (France) is involved with offshore drilling in Myanmar.

2.6.2. Market-seeking FDI

Australian MNEs from a wide range of services industries (e.g. retail, finance and insurance, and engineering) are involved with market-seeking FDI in ASEAN. Some Australian manufacturing companies have also invested to serve the host-country market and to use the host-country as a marketing or sales base to tap into markets in neighbouring countries in the region. In this context, regional integration, which facilitates easy sourcing, production and movement of goods and services, is an important motivation factor.

2.6.3. Efficiency-seeking FDI

The industrial and chemical sectors have set up production facilities for efficiency-seeking reasons related to regional sales. Given the modest amount of manufacturing FDI from Australia, efficiency-seeking FDI is less than market-seeking and resource-seeking FDI. However, there are examples of manufacturing efficiency-cum-market-seeking FDI such as Coca-Cola Amatil with eight manufacturing facilities in Indonesia and the Pact Group Holdings manufacturing operation in the Philippines. Efficiency-seeking FDI can also relate to the services or retail trade such as in the IT-BPO industry, where many Australian companies have set up operations in ASEAN countries with low-cost, language- and IT-skilled workers (e.g. the Philippines).

2.6.4. Strategic-asset-seeking FDI

Strategic-asset-seeking FDI by Australian MNEs is relatively less common in ASEAN. Such MNEs are more notable in knowledge-intensive activities such as R&D and in acquisitions of strategic target companies in the region. Gilmour Space, an Australian start-up, conducts R&D through a subsidiary in Singapore, and USG Boral has a corporate innovation centre and R&D centre in Malaysia.

2.7. PROSPECTS AND CONCLUSION

The prospect for Australia FDI flows into ASEAN is promising. First, there is growing interest by Australian companies in establishing a presence or expanding in the region. This is corroborated by recent major studies (table 2.11). Second, Australian FDI flows in the last decade have been significantly larger than in previous years, with some years exceeding \$4 billion, a level which is not seen before in this decade. Third, ASEAN is increasingly an important investment destination for Australian investment – a trend which is likely to continue. Fourth, ASEAN is continuing to deepen integration amongst its Member States. The ASEAN Economic Community 2025 (AEC-2025) will continue to improve the competitiveness and attractiveness of the region for investment, with further liberalization, facilitation and cooperation efforts across various economic areas. The economies in the region are also growing rapidly and have significant plans for infrastructure investments. With some 640 million people and a rapidly growing middle class of consumers, the region appeals to market-seeking operations for the production of goods and services. Various surveys have shown that many Australian companies have identified further economic integration as a driver for investing in ASEAN. Fifth, Australia has individual bilateral FTAs with Malaysia, Thailand and Singapore and is implementing the AANZFTA with the constituent members. These regional agreements, as well as the forthcoming RCEP, will increase the opportunities and further facilitate Australian investments into ASEAN.

In addition, despite the fluctuation of Australian FDI flows in ASEAN since 1995, the trend in general has been increasing. Australian companies are involved in a wider range of industries in ASEAN today than in the past. These industries include health care, education services, IT-BPO and R&D activities, in addition to finance and mining.

Table 2.11. Prospects of Australian investments and businesses in ASEAN

Study	Findings
Australian business in ASEAN survey 2017	In collaboration with the Australian Chamber of Commerce across ASEAN, companies were surveyed about their experiences and their plans in the region (AustCham Singapore and AustCham ASEAN 2017). Some of the key findings: • 86 per cent of Australian businesses operating in ASEAN plan to increase capital and resources in the region in the next five years. • 62 per cent of respondents had increased their investment in the region over the last two years, with only 6 per cent reducing their activities. • More than 50 per cent of respondents operate in Singapore, and 40 per cent operate in Malaysia and Thailand, reflecting the importance of these countries as regional hubs. However, other ASEAN countries are seeing more activities by Australian MNEs. • The growing middle class, improvements in infrastructure and regional integration were identified as the biggest reasons for companies to invest in ASEAN in the future.
ASEAN now, insights for Australian business	An Australian Government report that examined the country's trade and investment relationship with ASEAN identified four drivers that have led Australian MNEs to invest in the region (Commonwealth of Australia 2017): • Expanding cities, which have accelerated economic growth • A growing consumer class and higher purchasing power • Opportunities for innovative and digital companies in a fast-growing online market • Deepening integration and stronger connectivity through Australian FTAs
PwC's 2017 APEC CEO Survey	A survey with 1,412 respondents and in-depth interviews with CEOs and other top corporate officers and business specialists (PwC 2017). Key findings in relation to ASEAN: • 58 per cent plan to increase business investments in ASEAN in 2018. • 72 per cent planned to increase investment in ASEAN over the next three years. • Progress towards free trade across ASEAN and the promising economic growth outlook are drivers for firms to invest in the region.
Australia's International Business Survey 2017	A survey of 1,068 Australian businesses on their commercial activity in international markets found that ASEAN is a key export market, with 40 per cent of respondents identifying ASEAN as the most important common goods export market, ahead of New Zealand, the United States and China (University of Technology Sydney 2017).

Sources: Reports of the cited surveys.

The 2017 survey of Australian businesses in ASEAN found that over half of the respondents viewed the AEC and further regional integration as important drivers for them to invest or do business in the region. Further strengthening of the AEC would generate greater production, services and corporate connectivity. This could lead some MNEs that currently operate in only one or two ASEAN countries to expand into other member states.

Although FDI is concentrated mainly in just a few ASEAN countries, more Australian MNEs see other ASEAN Member States (particularly the CLMV countries: Cambodia, Lao People's Democratic Republic, Myanmar and Viet Nam) providing good prospects for future investment. Australian digital companies see good prospects to operate or expand in ASEAN because of the growing digital economy and e-commerce activities, and the large consumer base.

Sixty of the largest 100 Australian MNEs²⁸ have operations in ASEAN and 86 per cent of Australian businesses operating in ASEAN plan to increase capital and resources in the region in the next five years (Singapore AustCham 2017). This interest, coupled with the rapidly growing consumer class and its greater purchasing power and with greater integration through FTAs, makes prospects for Australian investment in ASEAN highly promising (Commonwealth of Australia 2017).

The support of the Australian government in encouraging Australian companies to invest in the region will further strengthen business-to-business and investment ties. This is exemplified by the active participation in the various chambers of commerce in the region and supporting programmes such as the Launchpad to help Australian start-ups to invest in ASEAN. Better dissemination of information on investment development and regional integration in ASEAN to prospective Australian investors and stakeholders is thus worth consideration.

NOTES

- ¹ Billiton has roots that trace back to a tin mine in Belitung island in Indonesia in 1851 and the predecessor of QBE established an agency in Singapore in 1890.
- ² www.aphref.aph.gov.au_house_committee_jfadt_malaysia_subs_sub11.pdf.
- ³ <https://dfat.gov.au/about-us/publications/international-relations/60-years-australia-in-malaysia/assets/img/60-Years-Aust-in-Msia.pdf>.
- ⁴ <http://www.qbe.com.my/about-qbe.html>.
- ⁵ <https://www.afr.com/opinion/andrew-robb-orders-up-750-australian-companies-to-invest-in-indonesia-20151117-gl1lt2>.
- ⁶ The FTA (Indonesia-Australia Comprehensive Economic Partnership Agreement) is expected to be signed in November 2018 (<https://www.bloomberg.com/news/articles/2018-08-31/australia-indonesia-wrap-up-talks-on-free-trade-agreement>).
- ⁷ <https://www.bhp.com/our-approach/our-history>.
- ⁸ Outward FDI stock refers to the value of resident investors' equity in and net loans to enterprises in a foreign economy. Cumulative FDI flows is the sum of annual FDI flows over a given period, consisting of value of foreign investors' equity in and net loans attributable to enterprises resident in the reporting economy.
- ⁹ http://www.secosgroup.com.au/site_files/977/upload_files/4EAnnualReportFY2017.pdf?dl=1.
- ¹⁰ <http://www.abc.net.au/news/rural/2018-04-09/elders-to-sell-indonesian-feedlot-and-abattoir/9633462>.
- ¹¹ <https://www.originenergy.com.au/about/investors-media/media-centre/asset-divestment-update-origin-agrees-to-sell-interest-in-indonesian-geothermal-project.html>.
https://www.dbs.com/newsroom/DBS_completes_acquisition_of_ANZs_wealth_management_and_retail_banking_business_in_five_markets.
- ¹² http://shareholder.anz.com/sites/default/files/event_files/1h18_anz_consolidated_results_announcement.pdf.
- ¹³ <https://www.originenergy.com.au/about/investors-media/media-centre/asset-divestment-update-origin-agrees-to-sell-interest-in-indonesian-geothermal-project.html>.
- ¹⁴ <http://www.wesfarmers.com.au/our-impact/sourcing/about-sourcing>.
- ¹⁵ <http://www.nufarm.com/MY/Home>.
- ¹⁶ <https://www.commbank.com.au/about-us/our-company/international-branches/asia.html>.
- ¹⁷ <https://www.theoilandgasyear.com/news/otto-energy-leaves-philippines/>.
- ¹⁸ http://www.minerals.org.au/file_upload/files/publications/Overview_New_frontiers_FINAL.pdf.
- ¹⁹ <https://insideretail.asia/2018/02/13/gm-cosmetics-expands-into-vietnam/>.
- ²⁰ <https://ministers.jobs.gov.au/cash/incubator-support-help-build-globally-competitive-businesses>.
- ²¹ <https://www.australiaunlimited.com/LandingPads/about-landing-pads>.
- ²² <https://www.austrade.gov.au/asean-now/case-studies/zed-technologies/>.
- ²³ https://www.immersivetechologies.com/news/news2008/news_2008_08.htm.
- ²⁴ <https://www.austrade.gov.au/asean-now/case-studies/william-angliss/>.
- ²⁵ Australian business in ASEAN survey 2017.
- ²⁶ <http://www.nufarm.com/MY/Home>.
- ²⁷ <https://www.austrade.gov.au/asean-now/case-studies/blackmores/>.
- ²⁸ These top 100 largest Australian companies based on total assets were extracted from Bloomberg's database and matched with the Orbis database to identify the presence of subsidiaries in ASEAN. Information from annual reports of companies were also used.

CHAPTER 3

ASEAN MNEs and Business Groups

3.1. INTRODUCTION

While ASEAN is integrating and working towards realizing AEC-2025, companies in the region are contributing to regional connectivity through investments, business operations, engagement in regional value chains and commercial activities. Three distinct groups of companies are contributing to regional connectivity: ASEAN MNEs (financial and non-financial), business groups or conglomerates, and small and medium-size enterprises (SMEs) that invest regionally (*AIR 2016*).

ASEAN MNEs may be single large entities, members of large business groups, or government-linked companies, depending on their relationship, the complexity of their corporate structure and on differences in the industries they operate in (box 3.1).

The rise in intra-ASEAN investment (chapter 1) has a direct association with the regional operations of the top 100 ASEAN MNEs and business groups. Hence, understanding their business nature, industry backgrounds, home countries and reasons for investing in the region is important in interpreting the intraregional investment trend.

This chapter examines the role of the top 100 listed ASEAN non-financial MNEs in connecting the region and the factors motivating them to invest and expand regionally. Although ASEAN MSMEs also play an important role in connecting the region, their regionalization context is beyond the scope of this chapter. The topic warrants a separate analysis following on the examination of some aspects that appeared in *AIR 2016*.

This chapter also examines the role and corporate features of 15 ASEAN business groups, which own many of the large listed ASEAN MNEs. Many of these business groups pursue an integrated business strategy and have diversified operations across the region. Cases of business groups are presented, highlighting their characteristics and key reasons for investing regionally.

Box 3.1. Definitions and typology

Micro, small and medium-size enterprises (MSMEs) are defined differently among ASEAN countries (*AIR 2016*). The indicators of what constitutes an MSME differ by country. Some SMEs (despite their small size) can also be MNEs, when they have significant FDI activities. With regional integration and the opportunities posed by the digital economy, some ASEAN SMEs have established operations or offices in multiple locations in the region in a short period of time (*AIR 2016*).

ASEAN MNEs refer to indigenous companies from an ASEAN country that invest or operate in at least one other ASEAN country. They can include publicly listed or private companies, conglomerates or State-owned enterprises (SOEs). Some are conglomerates that also operate across the region. They can be members of a large ultimate-owner business group.

Conglomerate refers to a group of companies or a large MNE with a collection of subsidiaries that operate in diversified businesses or industries. A conglomerate can be an ultimate-owner business group or a member of a large business group.

Business groups are portfolios of companies (e.g. subsidiaries, sub-subsidiaries, affiliates) operating in one or more key industries. A business group can also include significant subsidiaries that are MNEs or conglomerates, which in turn own many subsidiaries. Business groups can be complex because of the cross-holding of equity stakes in different subsidiaries and affiliates within the group, which can take place in the home country or other ASEAN countries. Their corporate structure is also complex because in most cases they involve integrated business operations along value chains, drawing on a portfolio of skills and business experiences generated within the group.

There are two main types: family or privately owned business groups, and public corporation groups. The former includes Ayala Group (Philippines), Charoen Pokphand (Thailand), Hoang Anh Gia Lai Group (Viet Nam), Kuok Group (Malaysia) and Salim Group (Indonesia). The latter covers publicly owned groups or government-linked companies such as Petronas Group and Sime Darby Group (both Malaysia), PTT Group (Thailand), Singapore Telecommunication Group (Singapore), and Viettel and Vietnam Rubber Group (both Viet Nam). In some cases, these latter groups have investments from a sovereign wealth fund of their home countries.

SOEs are State-owned enterprises or public companies. They can be MNEs, conglomerates or even business groups. They are also referred to as government linked companies (GLCs).

Source: ASEAN Investment Report 2018 research.

3.2. ASEAN MNEs

There are two categories of indigenous MNEs in ASEAN: financial entities and non-financial entities. The latter includes large corporations and multinationals in all industries except banking and finance. The former are mostly indigenous banks and finance corporations, and are not covered in this chapter. Although many of the large ASEAN MNEs are listed companies and some are significant industrial conglomerates, they are also members of large business groups (sections 3.3 and 3.4).

Many of these MNEs have further expanded regionally with new factories, new business ventures in different industries (e.g. the digital economy) and into new host countries in the region (*AIR 2016*, *AIR 2017*). In some cases, they have expanded with new corporate functions (e.g. manufacturing to retailing) in the same host country.

3.2.1. The 100 largest ASEAN non-financial MNEs

Of the 100 largest non-financial ASEAN companies, ranked by assets, 77 have operations in other ASEAN countries.¹ This number is significant, reflecting the strong regional presence of these companies.

The 23 companies that do not have operations in other ASEAN countries are in industries that are natural monopolies, rely on heavy investment in infrastructure or public utilities and are constrained by corporate policy to serve home markets, which limits their internationalisation. Large companies such as Perusahaan Gas Negara (Indonesia) and SM Investment Corporation (Philippines)² are domestically focused entities. Some of these large domestic companies are home-market-oriented because the home country provides a very competitive environment (hence the lower motivation to go abroad). For some companies, the home market is too large to warrant overseas expansion (e.g. plantation, consumer products and infrastructure companies in Indonesia) and they focus on growing the local market (e.g. SM Investment Corporation (Philippines)). These companies concentrate on building their business networks at home to cover more provinces and strengthen local footholds where there are significant investment opportunities (e.g. Indonesia and the Philippines).

Table 3.1 presents the 100 largest ASEAN non-financial MNEs with a presence in at least one other ASEAN country (box 3.2). These ASEAN MNEs had combined assets of nearly \$1.1 trillion in 2017 (up 65 per cent since 2010) – about the combined GDP of seven ASEAN countries (Brunei Darussalam, Cambodia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines and Singapore) or about the size of the inward FDI stock in Singapore (the fifth largest recipient of global FDI stock) (figure 3.1).³ The increasing cash holdings of these MNEs have been a major factor contributing to their active internationalization or regionalization.

Box 3.2. The 100 largest ASEAN MNEs with regional presence: Methodologies and scope

The top 100 ASEAN MNEs list was constructed from the annual accounts of the largest 100 non-financial ASEAN MNEs. The ranking of companies was based on two criteria: size of total assets and physical presence in at least one other ASEAN country. A majority of the annual accounts reviewed listed foreign subsidiaries of the MNEs. Foreign owned entities with less than 10 per cent stake are excluded. The list does not include companies that only export to other ASEAN countries or use strategic partnerships. The foreign subsidiaries of these ASEAN MNEs vary from sales offices to large manufacturing plants and services operations.

Source: ASEAN Investment Report 2018 research.

Table 3.1. Top 100 non-financial ASEAN MNEs with presence in ASEAN, 2010 and 2017 (Millions of dollars)

Rank	Name	Head- quarters	Industry	Cash or near cash item		Total asset		No. of subsidiaries in other ASEAN countries		Subsidiaries in selected ASEAN countries (2017)
				2010	2017	2010	2017	2010	2017	
1	PTT	Thailand	Oil, gas and consumable fuels	4,504	5,102	40,766	68,535	5	9	Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Viet Nam
2	CapitalLand	Singapore	Real estate management and development	5,450	4,548	24,844	45,972	5	5	Indonesia, Malaysia, Philippines, Thailand, Viet Nam
3	Wilmar International	Singapore	Food products	1,080	2,148	34,091	40,933	4	7	Brunei Darussalam, Indonesia, Myanmar, Malaysia, Philippines, Thailand, Viet Nam
4	Singapore Telecommunications	Singapore	Diversified telecommunication	2,173	382*	31,171	34,580*	5	8	Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand, Viet Nam
5	Tenaga Nasional	Malaysia	Electric utilities	2,659	1,184	24,180	33,254	1	1	Indonesia
6	Top Frontier Investment Holdings	Philippines	Industrial conglomerate	..	4,132		29,941	5	5	Indonesia, Malaysia, Singapore, Thailand, Viet Nam
7	San Miguel	Philippines	Industrial conglomerate	2,858	661	18,945	27,597	5	5	Indonesia, Malaysia, Singapore, Thailand, Viet Nam
8	Genting	Malaysia	Hotel, restaurant and leisure	4,725	7,262	15,919	23,048	4	5	Indonesia, Philippines, Singapore, Thailand, Viet Nam
9	Keppel Cor	Singapore	Industrial conglomerate	3,308	1,701	15,942	21,033	5	6	Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam
10	Ayala	Philippines	Diversified financial services	1,213	1,285	7,200	20,434	5	6	Indonesia, Malaysia, Myanmar, Singapore, Thailand, Viet Nam
11	Fraser Property	Singapore	Real estate management and development	723	1,776	7,266	19,911	1	4	Indonesia, Malaysia, Thailand, Viet Nam
12	PTT Exploration & Production	Thailand	Oil, gas and consumable fuels	1,980	1,517	10,694	19,284	3	5	Cambodia, Indonesia, Malaysia, Myanmar, Thailand, Viet Nam
13	SM Investments	Philippines	Industrial conglomerate	1,529	1,487	9,301	19,205	0	5	Indonesia, Malaysia, Singapore, Thailand, Viet Nam
14	LT Group	Philippines	Industrial conglomerate	25	3,481	298	18,345	0	1	Singapore
15	Charoen Pokphand Foods	Thailand	Food products	257	705	4,182	18,221	6	5	Cambodia, Lao PDR, Malaysia, Philippines, Viet Nam
16	Singapore Airlines	Singapore	Airlines	5,899	2,421*	19,477	17,700*	5	5	Indonesia, Malaysia, Philippines, Thailand, Viet Nam
17	Siam Cement	Thailand	Construction materials	2,117	1,349	11,914	17,604	8	8	Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Viet Nam
18	YTL Corporation	Malaysia	Multi-utilities	4,056	3,099	15,995	17,374*	3	3	Indonesia, Singapore, Thailand
19	Sembcorp Industries	Singapore	Industrial conglomerate	2,717	2,010	8,486	17,367	3	4	Indonesia, Myanmar, Philippines, Viet Nam
20	Axiata Group	Malaysia	Wireless telecommunication	2,039	1,661	12,374	17,214	4	5	Cambodia, Indonesia, Myanmar, Singapore, Thailand
21	Olam International	Singapore	Food and staples retailing	710	1,486	10,241	16,683	4	5	Indonesia, Lao PDR, Malaysia, Thailand, Viet Nam
22	Sime Darby	Malaysia	Industrial conglomerate	1,628	482*	14,206	15,745*	8	8	Brunei Darussalam, Cambodia, Indonesia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
23	JG Summit Holdings	Philippines	Industrial conglomerate	961	1,087	7,450	14,791	4	6	Indonesia, Malaysia, Myanmar, Singapore, Thailand, Viet Nam
24	UOL Group	Singapore	Real estate management and development	244	611	6,158	14,682	6	6	Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam
25	Telekomunikasi Indonesia	Indonesia	Diversified telecommunication	1,016	1,851	11,109	14,607	2	2	Malaysia, Singapore

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Table 3.1. Top 100 non-financial ASEAN MNEs with presence in ASEAN, 2010 and 2017 (Millions of dollars)

Rank	Name	Head- quarters	Industry	Cash or near cash item		Total asset		No. of subsidiaries in other ASEAN countries		Subsidiaries in selected ASEAN countries (2017)	
				2010	2017	2010	2017	2010	2017		
26	City Developments	Singapore	Real estate management and development	1,460	2,825	10,879	14,592	4	4	Indonesia, Malaysia, Thailand, Philippines	
27	True Corp	Thailand	Diversified telecommunication	151	560	3,790	14,286	0	1	Singapore	
28	PTT Global Chemical	Thailand	Chemicals	698	1,333	13,549	13,354	3	4	Indonesia, Malaysia, Singapore, Viet Nam	
29	Ayala Land	Philippines	Real estate management and development	411	420	2,778	11,482	0	1	Malaysia	
30	YTL Power International	Malaysia	Multi-utilities	2,379	2,081	11,680	11,283*	2	2	Indonesia, Singapore	
31	CP All	Thailand	Food and staples retailing	521	887	1,589	11,062	1	3	Cambodia, Myanmar, Viet Nam	
32	DRB-Hicom	Malaysia	Automobile	2,559	887*	9,352	9,908*	4	5	Cambodia, Indonesia, Myanmar, Singapore, Thailand	
33	Abolitz Equity Ventures	Philippines	Industrial conglomerates	596	1,298*	3,995	9,846	0	2	Singapore, Viet Nam	
34	Berli Jucker	Thailand	Food and staples retailing	41	134	918	9,673	5	6	Cambodia, Lao PDR, Malaysia, Myanmar, Singapore, Viet Nam	
35	IHH Healthcare	Malaysia	Health care services	..	1,497	..	9,584	2	5	Brunei Darussalam, Indonesia, Myanmar, Singapore, Viet Nam	
36	PLDT (Philippine Long Distance Telephone)	Philippines	Wireless telecommunication	837	658	6,343	9,190	1	2	Malaysia, Singapore	
37	Advanced Info Service	Thailand	Wireless telecommunication	347	327	3,229	8,721	0	1	Singapore	
38	Indorama Ventures	Thailand	Chemicals	49	211	2,585	8,669	3	3	Indonesia, Malaysia, Singapore	
39	Thai Airways International	Thailand	Airline	1,250	468	9,836	8,620	0	1	Singapore	
40	Banpu	Thailand	Oil, gas and consumable fuels	563	685	6,405	8,251	3	3	Indonesia, Lao PDR, Singapore	
41	Petronas Chemicals Group	Malaysia	Chemicals	2,916	1,643	9,560	8,190	1	3	Indonesia, Thailand, Viet Nam	
42	Golden Agri-Resources	Singapore	Food products	218	126	10,114	8,138	2	2	Indonesia, Malaysia	
43	CapitalLand Mall Trust	Singapore	Equity real estate investment	555	391	6,331	7,859	5	7	Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand, Viet Nam	
44	IOI Properties Group	Malaysia	Real estate management and development	..	553*	..	7,823*	1	1	Singapore	
45	Lopez Holdings	Philippines	Independent power	173	844	1,617	7,762	2	2	Indonesia, Thailand	
46	Sapura Energy	Malaysia	Energy equipment and services	..	440	..	7,689	0	4	Brunei Darussalam, Indonesia, Singapore, Thailand	
47	Indah Kiat Pulp & Paper	Indonesia	Paper and forest products	62	620	5,925	7,634	0	1	Malaysia	
48	Genting Malaysia	Malaysia	Hotel, restaurant and leisure	931	1,476	4,802	7,379	0	1	Singapore	
49	Malakoff Corporation	Malaysia	Independent power	..	580	..	7,366	0	1	Indonesia	
50	First Philippine Holdings	Philippines	Electricity utility	590	830	3,665	7,350	1	2	Indonesia, Thailand	
51	Abolitz Power	Philippines	Independent power	418	714	3,072	7,231	0	2	Singapore, Viet Nam	
52	Thai Oil	Thailand	Oil, gas and consumable fuels	438	480	4,881	7,003	2	3	Lao PDR, Singapore, Viet Nam	
53	CapitalLand Commercial Trust	Singapore	Equity real estate investment	495	92	4,828	6,998	0	1	Malaysia	

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Table 3.1. Top 100 non-financial ASEAN MNEs with presence in ASEAN, 2010 and 2017 (Millions of dollars)

Rank	Name	Head- quarters	Industry	Cash or near cash item		Total asset		No. of subsidiaries in other ASEAN countries		Subsidiaries in selected ASEAN countries (2017)
				2010	2017	2010	2017	2010	2017	
54	Sembcorp Marine	Singapore	Machinery	2,271	973	4,113	6,847	1	2	Indonesia, Malaysia
55	SP Setia	Malaysia	Real estate management and development	340	1,374	1,410	6,826	0	1	Singapore
56	Adaro Energy	Indonesia	Oil, gas and consumable fuels	608	1,207	4,521	6,814	1	2	Malaysia, Singapore
57	Petron Corp	Philippines	Oil, gas and consumable fuels	1,004	340	3,694	6,762	2	2	Malaysia, Singapore
58	OUE	Singapore	Real estate management and development	176	400	3,679	6,759	2	2	Indonesia, Malaysia
59	Singapore Technologies Engineering	Singapore	Aerospace & Defense	1,240	747	5,663	6,339	0	1	Thailand
60	Megaworld Corp	Philippines	Real estate management and development	503	329	2,215	6,212	0	1	Singapore
61	Electricity Generating	Thailand	Independent power	257	208	2,224	6,150	2	4	Indonesia, Lao PDR, Philippines, Singapore
62	Telekom Malaysia	Malaysia	Diversified telecommunication	1,133	423	6,749	6,097	1	1	Singapore
63	Thai Beverage	Thailand	Beverage	112	298	2,563	5,833	2	4	Malaysia, Myanmar, Singapore, Viet Nam
64	IRPC	Thailand	Oil, gas and consumable fuels	158	66	3,995	5,666	0	2	Singapore, Viet Nam
65	PPB Group	Malaysia	Food products	300	271	4,526	5,636	4	4	Indonesia, Singapore, Thailand, Viet Nam
66	MMC Corp	Malaysia	Industrial conglomerate	1,319	172	11,844	5,629	0	2	Indonesia, Thailand
67	Globe Telecom	Philippines	Wireless telecommunication	134	224	2,982	5,556	0	1	Singapore
68	First Gen Corp	Philippines	Independent power	201	671	2,341	5,501	0	2	Indonesia, Thailand
69	AirAsia Group	Malaysia	Airline	479	463	4,300	5,337	1	2	Indonesia, Thailand
70	Medco Energi Internasional	Indonesia	Oil, gas and consumable fuels	179	489	2,278	5,161	0	2	Cambodia, Singapore
71	Feida Global Ventures Holdings	Malaysia	Food products	..	417	..	5,062	1	4	Cambodia, Indonesia, Myanmar, Singapore
72	Perennial Real Estate Holdings	Singapore	Real estate management and development	5	84	18	5,016	0	1	Malaysia
73	Batu Kawan	Malaysia	Chemicals	12	416	1,057	4,981	2	2	Indonesia, Singapore
74	Berjaya Corp	Malaysia	Industrial conglomerate	425	400*	6,035	4,960*	4	7	Brunei Darussalam, Cambodia, Indonesia, Myanmar, Philippines, Singapore, Thailand
75	IJM	Malaysia	Construction and engineering	498	485*	4,149	4,721*	3	3	Myanmar, Singapore, Viet Nam
76	Bumi Armada	Malaysia	Energy equipment and services	89	455	1,557	4,638	1	2	Indonesia, Singapore
77	Kuala Lumpur Kepong	Malaysia	Food products	407	346	2,971	4,619	2	2	Singapore, Indonesia
78	Singapore Press Holdings	Singapore	Media	340	230*	3,126	4,499	2	4	Indonesia, Malaysia, Thailand, Viet Nam
79	Thai Union Group	Thailand	Food products	34	25	2,480	4,491	0	1	Viet Nam
80	International Container Terminal Services	Philippines	Transportation infrastructure	345	279	1,599	4,371	0	2	Indonesia, Singapore

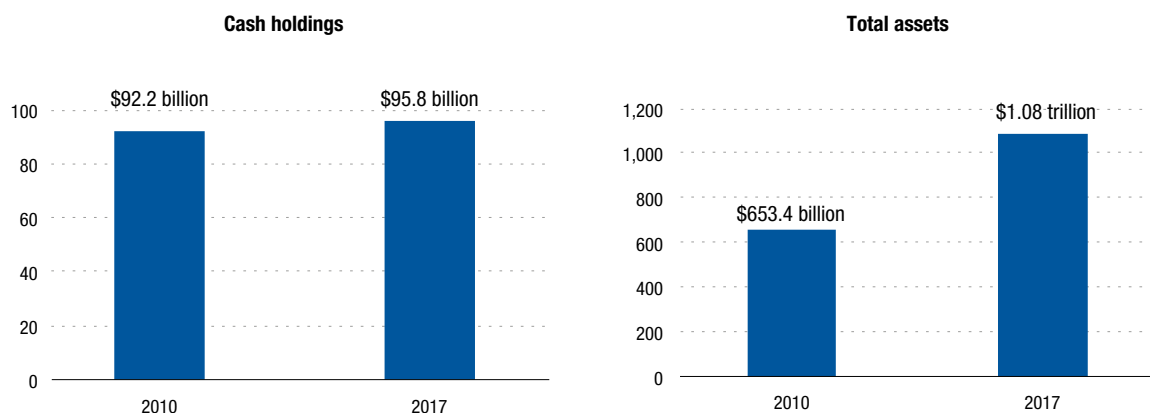
Table 3.1. Top 100 non-financial ASEAN MNEs with presence in ASEAN, 2010 and 2017 (Millions of dollars) (Concluded)

Rank	Name	Head- quarters	Industry	Cash or near cash item		Total asset		No. of subsidiaries in other ASEAN countries		Subsidiaries in selected ASEAN countries (2017)
				2010	2017	2010	2017	2010	2017	
81	Boustead Holdings	Malaysia	Industrial conglomerate	138	155	3,010	4,360	3	4	Brunei Darussalam, Indonesia, Myanmar, Singapore
82	IOI Corp	Malaysia	Food products	351	196	6,514	4,193*	1	1	Singapore
83	Lippo Karawaci	Indonesia	Real estate management and development	408	187	1,799	4,178	2	3	Malaysia, Myanmar, Singapore
84	MNC Investama	Indonesia	Media	143	199	1,849	4,160	0	1	Singapore
85	Ascott Residence Trust	Singapore	Equity real estate investment	103	193	2,185	4,110	3	4	Indonesia, Malaysia, Philippines, Viet Nam
86	Mapletree Logistics Trust	Singapore	Equity real estate investment	84	66	2,816	4,072	2	2	Malaysia, Viet Nam
87	Hong Leong Asia	Singapore	Machinery	910	1,020	3,715	3,808	1	1	Malaysia
88	Gamuda	Malaysia	Construction and engineering	365	135	2,110	3,683	0	2	Singapore, Viet Nam
89	ComfortDelGro	Singapore	Road and rail	442	446	3,414	3,612	2	2	Malaysia, Viet Nam
90	Fraser and Neave	Singapore	Food products	1,290	837	10,270	3,608	1	5	Indonesia, Myanmar, Singapore, Thailand, Viet Nam
91	Semen Indonesia Persero	Indonesia	Construction materials	408	268	1,733	3,603	0	1	Viet Nam
92	UEM Sunrise	Malaysia	Real estate management and development	142	199	1,290	3,545	0	1	Singapore
93	Total Access Communication	Thailand	Wireless telecommunication	416	800	3,294	3,515	0	1	Singapore
94	Bangchak Corp	Thailand	Oil, gas and consumable fuels	302	310	1,937	3,503	1	1	Singapore
95	Bumi Serpong Damai	Indonesia	Real estate management and development	395	426	1,302	3,382	0	1	Singapore
96	Wing Tai Holdings	Singapore	Real estate management and development	410	616*	3,035	3,353	2	2	Indonesia, Malaysia
97	Oxley Holdings	Singapore	Real estate management and development	92	145*	697	3,347	2	4	Cambodia, Indonesia, Malaysia, Myanmar
98	China Yuchai International	Singapore	Machinery	619	852	2,478	3,320	1	1	Malaysia
99	Vietnam Rubber Group	Viet Nam	Rubber		265*		3,066*	1	2	Indonesia, Malaysia
100	Berjaya Land	Malaysia	Hotel, restaurant and leisure	120	172*	3,962	3,022*	2	4	Philippines, Singapore, Thailand, Viet Nam

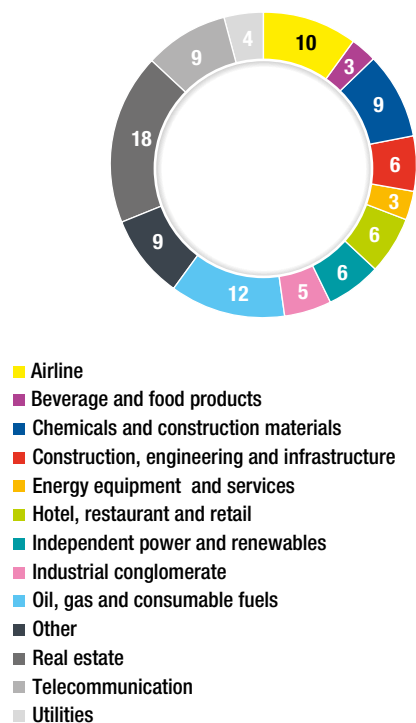
Sources: Bloomberg, annual reports of companies and Orbis.

Note: Ranked by 2017 total asset.

* 2016 number.

Figure 3.1. Top 100 ASEAN non-financial MNEs: Assets and cash holdings, 2010 and 2017

Source: Based on table 3.1.

Figure 3.2. Top 100 ASEAN non-financial MNEs: Industry distribution (Per cent)

Source: Based on table 3.1.

Together they held some \$96 billion in cash or near-cash items in 2017 – nearly the size of the GDP of Cambodia, the Lao People’s Democratic Republic and Myanmar combined, or more than the cumulative sum of intra-ASEAN investments between 2014 and 2017.

The 100 largest ASEAN MNEs operate in a variety of industries (figure 3.2). Real estate MNEs are the largest group, followed by those in oil and gas; telecommunications; chemicals; and construction. Many of these MNEs are government-linked companies and members of business groups. For instance, government-linked companies include Keppel Corp (Singapore), Petronas Chemicals (Malaysia), PTT Exploration and Production (Thailand), Sembcorp (Singapore), Semen Indonesia, Sime Darby (Malaysia), Singapore Telecommunication (Singapore), Telekomunikasi Indonesia and Vietnam Rubber Group (Viet Nam). MNE or conglomerates include Aboitiz Equity Ventures (Philippines), IJM (Malaysia), Olam International (Singapore), PPB (Malaysia) and Wilmar (Singapore).

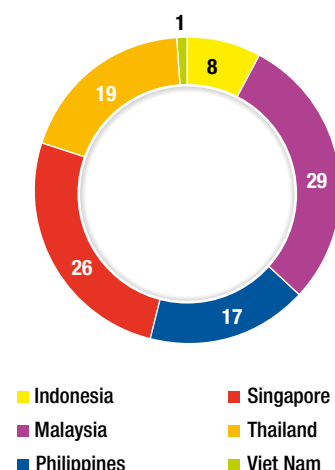
Some of the top 100 ASEAN MNEs are themselves part of larger ASEAN business groups such as San Miguel, a member of the Top Frontier Group (Philippines); Berjaya Land, a member of the Berjaya Group (Malaysia); Aboitiz Power, a member of the Aboitiz Equity Ventures Holding Group (Philippines); and Petron Corporation, a member of the Top Frontier Holdings Group (Philippines).

Malaysia, Singapore, Thailand and the Philippines are home to over 90 of the top 100 (figure 3.3). Beyond this list, growing numbers of Vietnamese and Indonesian companies in particular are venturing into neighbouring countries (e.g. CLM countries – Cambodia, the Lao People's Democratic Republic and Myanmar).

The reasons for the regional investments by the 100 largest ASEAN MNEs vary by industry and by MNE, and include efficiency-seeking motives (primarily to keep labour and input costs low), to resource-seeking (to gain access to natural resources in extractive industries and agribusiness) and market-seeking (to expand and diversify markets, and operate near customers or follow them to new locations) (section 3.3). There are also strategic reasons, which are often realized through M&As and strategic partnerships. Some of these MNEs invest in or expand operations into other ASEAN countries because of emerging investment opportunities; for instance, through contractual means in infrastructure projects (e.g. power, transport, telecommunication and water) (*AIR 2015*).

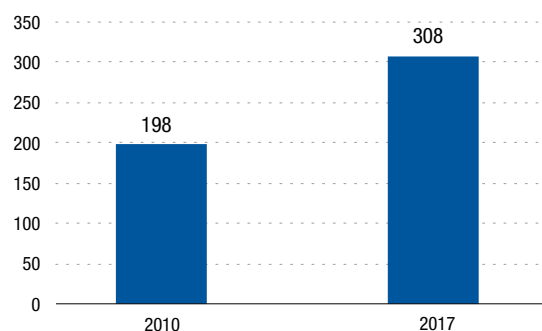
The 100 largest ASEAN MNEs in 2017 have further expanded their presence in the region since 2010. For instance, these MNEs collectively had 198 operations in ASEAN in 2010 (about two each, on average) and by 2017 their regional operations rose by 56 per cent to 308 (about three each) (figure 3.4). This expansion trend has contributed to the rise in intra-ASEAN investments, which increased from \$16.3 billion in 2010 to \$26.6 billion in 2017 (chapter 1).

Figure 3.3. Top 100 ASEAN non-financial MNEs: Country of origin, 2017 (Per cent)



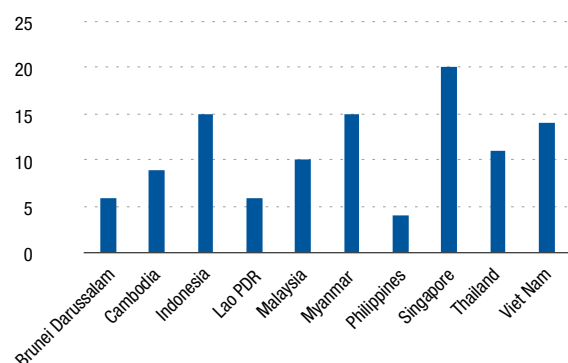
Source: Based on table 3.1.

Figure 3.4. Top 100 ASEAN MNEs: Number of subsidiaries in other ASEAN countries, 2010 and 2017



Source: Based on table 3.1.

Figure 3.5. Top 100 ASEAN MNEs: Expansion of operations between 2010 and 2017 (Number)



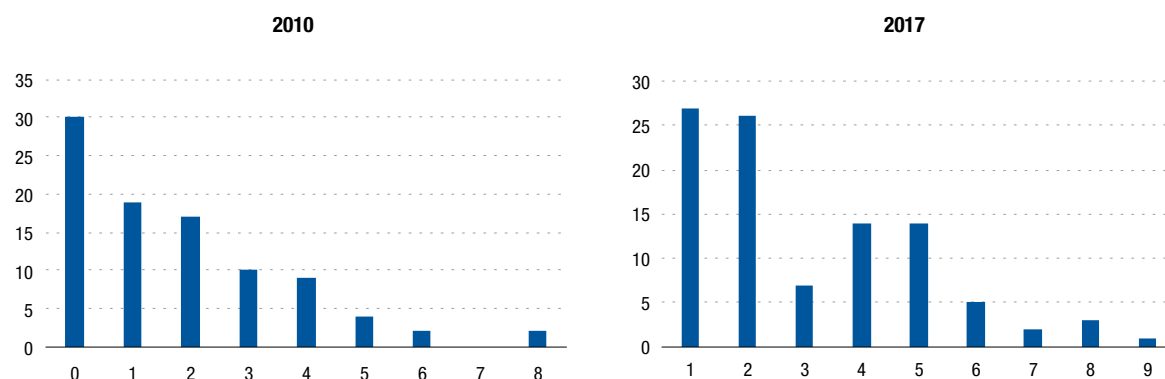
Source: Based on table 3.1.

All ASEAN countries saw an increase in the rate of expansion of regional operations by the 100 largest MNEs (figure 3.5). However, Singapore, Myanmar, Indonesia and Viet Nam witnessed the biggest increase in the number of operations. A combination of factors attracted these MNEs to these four destinations, namely cost advantages, local market factors, natural resources, investment opportunities and the business ecosystem (in Singapore) each played a role.

In addition, in 2010, 30 of the 100 largest ASEAN MNEs did not have a presence in other ASEAN countries but by 2017, all of them had established at least one subsidiary in the region (figure 3.6). The number of ASEAN countries where these top 100 MNEs operate varies, from only one to nearly all (e.g. PTT (Thailand), Sime Darby (Malaysia) and Singtel (Singapore)). The number of MNEs with

operations in multiple ASEAN countries has increased: 40 operated in four or more ASEAN countries in 2017, as compared with only 18 in 2010. Some ASEAN MNEs have expanded in the host country with more plants and facilities. They include, for instance, MNEs such as Petron (Philippines), Sembcorp (Singapore), CP Foods (Thailand), Genting (Malaysia), SM Investments (Philippines) and YTL Corp (Malaysia).

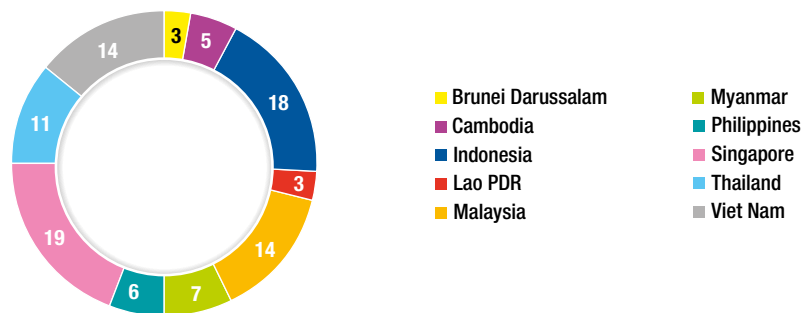
Figure 3.6. Top 100 ASEAN MNEs: Number of ASEAN countries where physically present, 2010 and 2017 (Number)



Source: Based on table 3.1.

Most of the subsidiaries of the 100 largest ASEAN MNEs operate in Singapore and Indonesia, followed by Malaysia and Viet Nam (figure 3.7). These four countries hosted nearly two thirds of the 308 subsidiaries in 2017; Myanmar and Cambodia are emerging destinations for investment by ASEAN MNEs.

Figure 3.7. Top 100 ASEAN MNEs: Geographical distribution of subsidiaries in ASEAN, 2017 (Per cent)



Source: Based on table 3.1.

3.3 ASEAN BUSINESS GROUPS

Two types of business groups dominate in ASEAN: family owned and publicly managed groups. Each presents specific key features. They own many subsidiaries and sub-subsidiaries. Some of their subsidiaries are large listed companies or are themselves conglomerates (e.g. CP Foods is a member of the Thai Charoen Pokphand Group, Lippo Karawaci a member of the Indonesian Lippo Group, San Miguel a member of the Philippine Top Frontier Group and Wilmar a member of the Malaysian Kuok Group). These large business groups own, on average, a few hundred companies involving multiple layers of subsidiaries, sub-subsidiaries and affiliates. They generate significant direct and indirect employment and export revenues.

Business groups have complex ownership structures and involve extensive internationalization, many of which entail cross-holding of equities among subsidiaries, which contributes to the complexity of the group structure (e.g. Ayala Group, JG Summit Group, Charoen Pokphand Group, Salim Group, Kuok Group). They have extensive regional reach through their subsidiaries and sub-subsidiaries in ASEAN and further afield. Depending on the industry, some of these business groups have a presence in all ASEAN countries.

A key feature of ASEAN business groups is their ability to effectively use an integrated business model, which draws on a portfolio of expertise and skills within the group to optimize value chain benefits across the region operating through an integrated strategy involving intrafirm and interfirm networks (e.g. Ayala Group, Charoen Pokphand Group, Lippo Group, Kuok Group,

Salim Group, Sinar Mas Group, Top Frontier Group). They invest in other ASEAN countries to expand control of value chains by establishing various types of subsidiaries or sub-subsidiaries such as a distribution and marketing entity, a holding company or a production outfit. Because of their widely diversified businesses, many of these business groups are also involved with a number of different value chains.

Some business groups or their major subsidiaries are expanding in ASEAN, with a growing percentage of their global assets located and revenues generated in the region. For instance, about 17 per cent of Golden Agri-Resources (GAR)'s subsidiaries and sub-subsidiaries (members of the Indonesian Sinar Mas Group) were based in Singapore and Malaysia as of 31 December 2017 compared with only 10 per cent on 31 December 2007. In 2017, some 21 per cent of its total sales were generated from ASEAN countries other than Indonesia and about 26 per cent of its assets were located in Singapore and Malaysia. A decade ago most of the subsidiaries were located in Indonesia and GAR assets in other ASEAN countries were negligible (section 3.4). Similarly, Universal Robina Corporation's (a subsidiary of the JG Summit Group) investments in ASEAN have grown rapidly in the last decade. In 2008, URC's assets in other ASEAN countries represented only 19 per cent of the group's total. By 2017, its assets in ASEAN (excluding in the Philippines) grew by 215 per cent to 27 per cent. In 2014, URC's international operations accounted for 25 per cent of its overall business, of which URC Thailand and Viet Nam contributed 80 per cent.

The major ASEAN countries are home to many significant business groups with a regional presence (table 3.2). There are also significant business groups in the CLMV countries with operations in other ASEAN countries, sometimes through strategic partnership arrangements. In the Lao People's Democratic Republic, the Dao Heuang Group is a diversified conglomerate with investments in Thailand. Vietnamese business groups Vinamilk (dairy products), Petrolimex (oil and gas), Masan (conglomerate) and Hoang Anh Gia Lai (conglomerate) have a presence in other ASEAN countries.

Table 3.2. Business Groups in ASEAN, 2015–2016 (Selected cases) (Millions of dollars) (Concluded)

Business Group	Country of origin	Selected listed subsidiaries	Headquarters	Industry	Cash and near cash item		Total asset		Turnover/revenues	
					2015	2016	2015	2016	2015	2016
Ayala	Philippines	Ayala Corp Ayala Land Manila Water	Philippines Philippines Philippines	Diversified financial services Real estate management & development Water utilities	1,751 407 146	1216 422 82	16,920 9,425 1,718	18,402 10,827 1,725	3,826 2,213 352	4,198 2,480 373
JG Summit	Philippines	JG Summit Holdings Universal Robina Corp Robinson Land Cebu Air	Philippines Philippines Philippines Philippines	Industrial conglomerate Food products Real estate management & development Airline	965 392 26 100	876 334 24 208	12,707 2,370 2,120 1,808	13,449 2,930 2,486 2,029	4,818 2,424 480 1,242	4,853 2,379 480 1,304
Abolitz Equity Ventures	Philippines	Abolitz Equity Ventures Abolitz Power Corp	Philippines Philippines	Industrial conglomerate Independent power producer	1,355 1,089	1,289 951	7,247 5,167	9,367 7,161	2,446 1,873	2,453 1,879
Lopez	Philippines	Lopez Holdings First Philippine Holdings Corp Manila Electric Energy Development Corp ABS-CBN Corp	Philippines Philippines Philippines Philippines Philippines	Independent power producer Electric utilities Electric utilities Independent power producer Media	865 845 1,083 375 246	 942 214 221	7,641 7,264 6,014 2,899 1,490	 5,975 2,741 1,468	2,122 2,122 5,681 755 842	.. 1,937 5,419 721 877
Keppel*	Singapore	Keppel REIT Keppel Infrastructure Trust Keppel Telecom & Transport	Singapore Singapore Singapore	Equity real estate investment trusts Multi-utilities Air freight & logistics	102 141 133	175 184 71	5,240 2,927 1,058	5,208 2,847 1,191	139 400 146	117 421 141
Sembcorp*	Singapore	Sembcorp Industries Sembcorp Marine	Singapore Singapore	Industrial conglomerate Machinery	1,134 444	1,301 841	14,054 6,493	15,407 6,507	6,946 3,615	5,729 2,568
CapitaLand*	Singapore	CapitaLand Mall Trust CapitaLand Commercial Trust CapitaLand Retail China Trust	Singapore Singapore Singapore	Equity real estate investment trusts Equity real estate investment trusts Equity real estate investment trusts	426 57 89	334 111 94	7,308 4,652 1,814	7,138 5,565 1,924	487 199 160	500 216 155
PTT*	Thailand	PTT Exploration & Production PTT Global Chemical	Thailand Thailand	Oil, gas and consumable fuels Chemicals	2,997 318	2,038 869	19,655 10,468	18,881 10,967	5,394 11,800	4,258 9,895
Charoen Pokphand	Thailand	Charoen Pokphand Foods True Corp CP All Charoen Pokphand Indonesia	Thailand Thailand Thailand Indonesia	Food products Diversified telecommunication services Food and staples retailing Food products	1,011 294 597 121	951 1,400 933 185	13,705 7,861 9,125 1,797	16,239 12,523 9,826 1,788	12,324 3,474 11,461 2,237	13,165 3,535 12,321 2,877
TCC	Thailand	Fraser's Centrepoint Berli Jucker Fraser and Neave Big C Supercentre Thai Beverage	Singapore Thailand Singapore Thailand Thailand	Real estate management & development Industrial conglomerate Beverage Food and staples retailing Beverage	964 31 675 67 ..	1591 97 765 67 146	16,199 1,239 2,207 2,575 ..	17,752 8,419 2,767 2,612 5423	2,647 1,255 1,576 3,785 ..	2,494 3,552 1,434 3,326 5,371
Banpu	Thailand	Banpu Indo Tambangraya Megah Banpu Power	Thailand Indonesia Thailand	Oil, gas and consumable fuels Oil, gas and consumable fuels Independent power producer	396 268 32	455 328 32	6,557 1,178 810	6,969 1,210 1,198	2,476 1,589 165	2,260 1,367 157

Source: ASEAN Investment Report 2018 research, based on Bloomberg database.

* GLCs.

3.3.1. Regional expansion of business groups

Most business groups are continuing to expand either directly, or through subsidiaries or sub-subsidiaries in ASEAN (table 3.3). Regional expansion by both ASEAN MNEs and business groups can take a number of forms: (i) expansion within the same host country, (ii) expansion to multiple host countries, (iii) horizontal expansion of similar production or operation processes, (iv) vertical expansion in forward or backward integration to optimize control of value chains across the region and (v) expansion into new business areas created by digital disruption.

Having investment in other ASEAN countries is not new to many ASEAN MNEs and business groups. Some of them have been investing in the region for a long time. They invest regionally for various reasons, depending on the types of investment and industry. The reasons include to diversify revenue streams and expand markets (*AIR 2015*, *AIR 2016*, *AIR 2017*, section 3.4). The regional activities of Ayala (Philippines), CP (Thailand), Keppel (Singapore), Lippo (Indonesia), Salim (Indonesia), Sembcorp (Singapore), Siam Cement (Thailand) and Top Frontier (Philippines) are influenced by market considerations as well as other reasons. Business groups with operations in the extractive industry invest regionally to access to natural resources (e.g. PTT and Petronas) and Banpu (Thailand) in Indonesia. Some business groups with subsidiaries in manufacturing invest regionally because of efficiency-seeking motivations to reduce operational costs (e.g. Top Frontier Group through San Miguel, Thai CP Group).

Some invest through strategic partnerships and M&As. For instance, Ayala Group invested in water operations in Viet Nam through acquisitions of equity stakes in strategic partners such as the Ho Chi Minh City Infrastructure Investment Joint Stock Co. The group, together with other consortium members, also acquired Chevron's geothermal assets and operations in Indonesia in 2017. First Pacific (a main investment holding company of the Indonesia Salim Group) through its subsidiaries acquired stakes in many infrastructure companies in ASEAN to gain immediate access to the host country markets. Sembcorp (Singapore) established strategic partnerships with key local partners in Indonesia and Viet Nam to build industrial estates and Siam Cement Group (Thailand) made a number of strategic acquisitions in Indonesia, the Philippines and Viet Nam to strengthen its foothold in these host countries (section 3.4).

Increasingly, regional integration factors (regional market, improved investment environment and opportunities) and corresponding investment opportunities are attracting ASEAN MNEs and business groups to expand regionally by further internalizing or strengthening control of value chains. For some, regional integration facilitates engagement in regional value chains, enabling specific segments of the chain to be carried out in different locations depending on corporate objectives and host-country locational advantages.

The AEC formation process looking towards 2025 continues to influence business and investment sentiment in the region, including in large business groups (section 3.4, box 3.3). Large MNEs and business groups are reacting to the opportunities and challenges associated with the AEC. Some have invested in other ASEAN countries partly because of those opportunities (e.g. many large Thai MNEs and business groups). Their investments abroad in

turn have encouraged their peers to follow suit, and in some cases their suppliers have also followed them (e.g. major Thai banks following Thai companies to the CLMV countries).

Table 3.3. Regional investment activities of selected ASEAN business groups, 2017

Name	Headquarters	Investment activity	Host country
Ayala Corp (through subsidiary Manila Water)	Philippines	- Acquisition of 20% equity stake in PT Sarana Tirta Ungaran (a water company in Central Java) - Acquisition of a stake in Saigon Water (a Vietnamese holding company that builds water and wastewater treatment plants). Stake was increased from 24.5% to 38% in 2017.	Indonesia Viet Nam
JG Summit	Philippines	Investment in Singapore-based Sea Ltd (an internet platform focused on markets in Southeast Asia)	Singapore
First Pacific (Salim Group) through MetroPac Water Investments Corp (Philippines)	Philippines	Acquired a 45% stake in Boo Phu Ninh Water Treatment Plant for \$12.2 million	Viet Nam
Lippo Group (through Lippo Group-sponsored Venturra Capital)	Indonesia	Investments in start-ups	Indonesia, Malaysia, Singapore
Axiata (through Axiata Business Services)	Malaysia	Acquired a 65% stake in Suvitech, a Thailand-based information technology solutions and service company for \$11 million	Thailand
CIMB	Malaysia	Acquired (through CIMB Principal Asset Management Co Ltd) Finansa for RM 22 million to position itself as a leading asset management company	Thailand
Keppel	Singapore	Acquired a 40% stake in a joint venture with the Shwe Taung Group to develop an office tower and service residences for about \$48.6 million	Myanmar
	Singapore	Keppel Land (through Valicour Pte Ltd and Topalle Pte Ltd) partnered with Thai property, KPN Land, to acquire two prime sites in Bangkok's CBD for about \$90 million.	Thailand
	Singapore	Keppel Land entered into two conditional sales and purchase agreements to acquire a stake in two prime residential sites in Ho Chi Minh City with a total development cost of about \$407 million	Viet Nam
SCG (through subsidiary Vina SCG Chemicals)	Thailand	Increased stakes in Long Son Petrochemical Company Limited, from 46% to 71% for \$36.1 million. In 2018, SCG signed an agreement with Viet Nam National Oil and Gas Group (PetroVietnam) to buy the latter's equity stake (29%) for \$90 million.	Viet Nam
SCG (through subsidiary Siam Global House PCL)	Thailand	Acquired an 80% stake in PT Indocorr Packaging Cikarang, an Indonesian producer of corrugated containers.	Indonesia
SCG subsidiary SC Cement – Building Materials (through subsidiary Siam Global House PCL)	Thailand	Established a joint venture with local Cambodian investors to establish Global House (Cambodia) Co Ltd in Cambodia.	Cambodia
SCG (through SC Cement Building Materials)	Thailand	Acquired Vietnam Construction Materials JSC, an integrated cement operator in Viet Nam for \$440 million	Viet Nam

Sources: Based on business group cases in section 3.4.

Box 3.3. Business groups and the AEC

Some business groups interviewed for this report revealed that although they welcome the AEC as pivotal in further integrating the region, their recent regional investments in some cases have not been undertaken because of the AEC, but other factors:

- (i) The impact of the AEC on industries and on the production of goods and services has yet to materialize. AEC-2025 is still some years ahead.
- (ii) These business groups are already well represented or connected in many countries in the region through their subsidiaries, business networks and integrated business operations. Unlike SMEs, they have the necessary resources to research and identify investment opportunities and already have significant regional foothold.
- (iii) They are likely to continue to expand and upgrade their operations, including into new business or industries, to further strengthen their business networks, regional footprints and integrated business development.

Large business groups are well placed to benefit from ASEAN's integration and division of labour, facilitated by comparative locational advantages. They use an integrated business model to benefit from operating regionally. Many are of the view that the AEC will facilitate trade, production and investments and generate a more conducive business environment. Some indicated that the AEC will encourage them to engage further in the region and expand their investments (e.g. Ayala, San Miguel, JG Summit, Triputra, Sinar Mas, Siam Cement, Charoen Pokphand, CIMB, Sembcorp) (section 3.4).

Source: ASEAN Investment Report 2018 research.

Although regional integration and the AEC are considered important factors, the overall reasons supporting regional expansion vary with the type of business group or MNE. For instance, some business groups in the information and communication technology (ICT) infrastructure industry invest regionally primarily to expand markets and diversify revenues (e.g. Axiata (Malaysia) and Singapore Telecommunication). Business groups have also transformed, adapted and embraced digital opportunities by entering into new business areas related to digital development. In some cases, expansion into digital businesses has also led them to expand geographically to neighbouring countries (e.g. Charoen Pokphand, Lippo, Singapore Telecommunication, Triputra; chapter 4).

3.3.2. Connecting ASEAN

ASEAN business groups play a significant role in connecting countries in the region through their extensive value chain management and integrated business networks. They are increasingly connecting ASEAN countries through in a number of ways such as (i) subsidiaries and sub-subsidiaries that are connected and operate in different ASEAN locations; (ii) investments they made and expanded in different ASEAN countries; (iii) production and sourcing activities in different places including regional production networks; (iv) cross-border M&As, (v) joint

ventures, strategic partnerships, franchising arrangements and other forms of non-equity modes, (vi) participation in the development of infrastructure in the region; (vii) trade, intrafirm and interfirm activities; and (viii) more recently, financing start-ups in the region, including investing in venture capital funds based in ASEAN. The extent to and manner in which business groups contribute to ASEAN connectivity can be better appreciated through review of some cases, which are highlighted below and detailed in section 3.4.

Lippo Group (Indonesia)

The group helps connect ASEAN countries through its operations in various business activities and subsidiaries/affiliates located in different countries. This includes businesses in health care, agribusiness, real estate, finance and retail operations. The group continues to expand with new investments such as in hospital operations outside Indonesia (box 3.4). The Lippo Group is one of the largest healthcare services providers and hospital owner/operator in ASEAN. Through Siloam, the Group owns two prominent health care services in Singapore (i.e. International Healthway Corporation and Healthway Medical Corporation), which have a presence in other ASEAN countries such as Cambodia, Malaysia, Myanmar and Viet Nam.⁴

In the area of telecommunications and multimedia technology, the Group, through its subsidiary, First Media, connects Indonesia with other ASEAN countries through various types of IT connection including cable TV and investments in digital activities (chapter 4). By bringing its Matahari Department Store online, the group expanded its market reach digitally to customers in other ASEAN countries. Two of its three main investment holding companies also manage malls, hotels, hospitals, and other businesses outside Indonesia.

Box 3.4. Lippo group's healthcare services in ASEAN

The Group owns, manages and operates hospitals and healthcare services in various ASEAN countries. Aside from Indonesia, the Lippo Group has four hospitals in Myanmar, and 100 clinics combined in Singapore and Viet Nam.^a The group also has healthcare operations in Malaysia. It is planning to expand its healthcare operations to other ASEAN countries such as Cambodia, the Lao People's Democratic Republic and Myanmar. Outside ASEAN, the group has 10 hospitals in China and 12 in Japan.

Lippo's healthcare business expansion is carried out by its main subsidiaries. They include the following:

- PT Siloam International Hospitals, a subsidiary of PT Lippo Karawaci, operates a network of 32 hospitals in Indonesia in 2017. The group plans to increase its portfolio of hospitals to 50 by 2019 to serve the growing market in Indonesia. Its Indonesian hospital chain employed more than 500 general practitioners, 2,200 specialist doctors and 9,000 nurses, allied health and support staff that catered to some 2 million patients annually.^b
- In 2015, the Lippo group expanded its hospital operations overseas with the opening of Pun Hlaing Siloam Hospital in Yangon, Myanmar in partnership with a local conglomerate (i.e. First Myanmar Investments). Since then the group has continued to expand its healthcare operations in that host country, with four more hospitals by 2017. In November 2017, the group announced that it is planning to establish hospitals in Cambodia and Viet Nam.^c
- OUE Lippo Healthcare (OUE LH) Limited, a subsidiary of its Singapore subsidiary (OUE Limited) offers health care services primarily in China and Japan. OUE LH is also expanding in ASEAN with an integrated medical centre in Kuala Lumpur, Malaysia. It is raising S\$79 million through a private placement with Itochu Corporation (Japan) to expand its health care business in Asia.^d
- Healthway Medical Corp. Limited (Singapore) (HMC) is a subsidiary of Gentle Care (Singapore), which is a subsidiary of Lippo China Resources Limited – a private health care provider with a network of medical centres and clinics in Asia. HMC has a strong presence in Asia, owning, operating and managing over 100 medical centres and clinics.

Sources: Annual Reports of the various Lippo subsidiaries and sub-subsidiaries.

^a *Reuters*. Indonesia's Lippo targets hospitals, retail in up to \$5 billion SE Asia expansion. 8 September 2014 (<https://www.reuters.com/article/us-lippogroup-asean/indonesias-lippo-targets-hospitals-retail-in-up-to-5-billion-se-asia-expansion-idUSKBN0H30IT20140908>) and *Jakarta Globe*. Lippo Seals \$1B deal with CMG for Hospital Expansion in China, 09 October 2017 (<http://jakartaglobe.id/business/lippo-seals-1b-deal-cmg-hospital-expansion-china/>)

^b *Jakarta Globe*. Siloam Looks Forward to Running 50 Hospitals in 2019, 09 March 2018 (<http://jakartaglobe.id/business/siloam-looks-forward-running-50-hospitals-2019/>)

^c *Nikkei Asian Review*. Indonesia's Lippo Group spreads its hospital network to China, 23 November 2017. (<https://asia.nikkei.com/print/article/316501>)

^d *Business Times*. OUE Lippo Healthcare to place out shares to Itochu for S\$78.8m, January 11, 2018. (<http://www.businesstimes.com.sg/companies-markets/oue-lippo-healthcare-to-place-out-shares-to-itochu-for-s788m>).

Salim Group (Indonesia)

First Pacific (a major investment holding company of the Salim Group) has contributed significantly to connecting ASEAN countries with investments, production and regional value chain activities through the group's integrated business strategies. First Pacific is a conglomerate itself and has investment in infrastructure in various ASEAN countries. Through

investment and development of infrastructure (e.g. road, airport, water), the First Pacific group of companies are contributing to the region's effort in connectivity. The Salim Group is also contributing to regional connectivity through active sourcing and intra-firm trade and with third parties across ASEAN.

First Pacific's two main subsidiaries (Indofood (Indonesia) and Metro Pacific Investments Corporation (MPIC), headquartered in the Philippines) were domestically focused in the early years of their operations, they are now springboards (particularly MPIC) for First Pacific's expansion in the region (section 3.4). Indofood has several subsidiaries in Singapore that serve as investment holding companies, trading and marketing units as well as Indofood's shipping operations. Indofood has connected the region through its marketing and trading (import and export) activities. Its shipment operations link Indofood's Bogasari and Agri-business (for palm oil, sugar and flour) with other ASEAN countries. MPIC has extensive infrastructure investments in the region (section 3.4).

Sinar Mas Group (Indonesia)

Sinar Mas's pulp and paper business operations are mainly in Indonesia, but it has sales and marketing offices in other ASEAN countries. The group is also connecting ASEAN countries through the palm oil business value chains it controls and through its regional production networks in agribusiness and food operations. The group's extensive operations in these different industries facilitate intrafirm and interfirm (with suppliers, customers and contractors) activities in the region. For example, Golden Agri-Resources is vertically integrated, involving upstream and downstream palm oil operations and palm oil products. It built its trading hub and representative offices in some ASEAN countries to get closer to its customers and to serve them better.⁵ Although Indonesia remains the base for the majority of the Sinar Mas Group's operations and a major market for its products and services, the group established two of its largest main companies in Singapore and has expanded its operations in other ASEAN and Asian economies. The group's extensive production networks and integrated business operations in agribusiness and property connect ASEAN countries.

Triputra Group (Indonesia)

Although a majority of the Triputra Group's operations centre on the domestic market, it has helped connect ASEAN businesses in the region in several ways. They include through (i) business partnerships with other ASEAN business groups operating in Indonesia, which contributes to cross-border business connectivity and facilitates FDI into Indonesia; (ii) investments in Singapore and Viet Nam, including investments in Northstar (Singapore) in start-ups in the region (*AIR 2016*); and (iii) exports. AI (an Adaro Energy subsidiary) exports coal to the region (15 per cent to Malaysia, 3 per cent to the Philippines, and about 4 per cent to Thailand, Singapore and Viet Nam), contributing to the establishment of a reliable energy source in the region.

Axiata Group (Malaysia)

Axiata is a major telecommunication investor in the region, especially in Cambodia and Indonesia. It has helped support the development of host countries' national telecommunication and digital technology development plans. In Singapore, Axiata affiliate M1 collaborated on drone technology development of 4.5G HetNet for traffic management of unmanned aerial systems. In Indonesia, XL Axiata's investment in the infrastructure network supports the development of the host country's digital economy by providing telecommunication connection, internet access and mobile service. The group has installed its 100,000th base transceiver station (BTS) tower in Indonesia. In 2017, XL Axiata operated more than 45,000 3G U900 BTS, located in more than 400 cities and districts, and more than 17,000 4G LTE BTSs in 352 cities and districts in Indonesia. It is also involved in the construction of the Australia–Indonesia–Singapore submarine cable communication system. The project, expected to be completed in late 2018, provides an alternative for internet access from Indonesia to the global network via Australia. In Malaysia, Axiata/Celcom is collaborating with the Malaysia Digital Economy Corp, through the latter's Malaysia Digital Hub Initiative, to extend Axiata Digital's application programming interface platform. The extension of the platform aims to enhance regional market access for Malaysian businesses and global technology companies.

Axiata's three core operations (digital telecommunication, digital businesses and infrastructure) in ASEAN countries contribute to connectivity through digital mobile communications, internet-based application platforms and infrastructure (towers and cable communication systems). The group links ASEAN countries and the region with the rest of the world through telecommunication and digital infrastructure, and digital services, providing gateways to regional and global markets.

CIMB Group (Malaysia)

The CIMB Group has a strong presence in the region through its subsidiaries and banking services. The group has around 830 branches across ASEAN. Some of these operations help facilitate regular trade flow, investments, market deals, payments and remittances of corporations, institutions and individuals in the region. Its investment banking arm has undertaken a number of successful regional deals (e.g. 10 mergers and acquisitions; 9 regional equity deals (including initial public offerings), 41 regional debt deals) for major ASEAN corporations based in Singapore, Indonesia, Thailand, and Malaysia. Such deals have helped corporations source funding to expand and implement plans and strategies.

Kuok Group (Malaysia)

The diversified and integrated business operations of the Kuok Group involving different industries contribute to connectivity within ASEAN through intra- and inter-firm linkages. An example is Wilmar, through its integrated business with different segments of the value chains located across the region (box 3.5). The PPB Group also operates along the entire value chain from grain plantations to flour mills in Indonesia, Malaysia, Thailand and Viet Nam. FFM Bhd, a subsidiary of PPB, operates the group's flour milling operations. Through its sub-subsidiaries

(Johor Bahru Flour Mill Sdn Bhd (Malaysia), FFM Grains and Mills Sdn Bhd (Malaysia), Vietnam Flour Mills Ltd (Viet Nam), PT Pundi Kencana (Indonesia) and Kerry Flour Mills Ltd (Thailand)) FFM has grain, flour and feed milling complexes strategically located in Malaysia, Indonesia, Thailand and Viet Nam. FFM's flour products are refined further and traded worldwide by FFM's subsidiary (FFM Marketing Sdn Bhd) and by Wilmar (PPB owns 19 per cent of Wilmar and Wilmar owns 20 per cent of FFM). Global distribution of flour in bulk volumes is carried out through PPB's sister companies and subsidiaries, Malaysian Bulk Carriers (which PPB owns 14 per cent of) and Pacific Carriers (Singapore), which owns 34 per cent of Malaysia Bulk Carrier. A certain volume of FFM's flour goes to another FFM subsidiary (Italian Baker Sdn Bhd), which manufactures and distributes bakery products in Malaysia and neighbouring countries. FFM has set up its own subsidiary for the trading of flour worldwide and engages the services of its sister companies in the trading and distribution of flour and feed products within the Kuok Group.

Box 3.5. Wilmar International

Wilmar, headquartered in Singapore, is a significantly internationalized ASEAN company involving upstream to downstream agri-business value chain activities. The Group consisted of more than 280 subsidiaries, sub-subsidiaries and affiliates (excluding associates and joint ventures) in 2017, with at least 50 per cent of them in ASEAN. Wilmar's core activities include oil palm cultivation, oilseed crushing, edible oils refining, sugar milling, refining and merchandising, manufacturing of consumer products, specialty fats, oleo-chemicals, biodiesel and fertilizers as well as rice and flour milling. It employs more than 90,000 people. About 60 per cent of its workforce is in Indonesia and Malaysia. Wilmar's operations in ASEAN span the entire region, with plantations primarily in Indonesia and Malaysia. The company's production and distribution networks extend to Cambodia, the Lao People's Democratic Republic, Myanmar, the Philippines, Thailand and Viet Nam, whereas research and development activities extend to Singapore, Malaysia and Indonesia.

Connecting ASEAN

Wilmar's business strategy is based on an integrated agribusiness model that captures the entire value chain of its agricultural commodity operations in oil palm – from harvesting and processing to branding, merchandising and distribution. Wilmar helps connect ASEAN countries through investments, production and plantation activities. For instance, the company's palm plantations are primarily in Indonesia (68 per cent) and Malaysia (24 per cent). Cultivation and milling are also done in these countries. In addition, the company is involved in outgrower schemes and contract farming in Indonesia. The company owns mills to process fresh fruits from surrounding plantations. Crude palm oil and crude palm kernel oil are sold and processed in the company's own facilities. Wilmar owns and operates processing plants in Indonesia and Malaysia to produce palm and lauric oils and related products, including refined palm oil, oleo-chemicals, specialty fats and biodiesels. These activities also take place in other ASEAN countries, such as in the Philippines and Viet Nam, where the Wilmar Group has processing capacity. Processing and refining plants are strategically located in both production and consumption markets as well as in ports.

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Box 3.5. Wilmar International (Concluded)**Value chains**

The shipping operation is managed by a company subsidiary based in Singapore. R&D activities are conducted in Singapore, Malaysia, and Indonesia. The main customers of fertilizers produced by the Group are the company's suppliers of raw materials. The majority of this product is sold in Indonesia and Malaysia, where Wilmar taps into a captive market.

The Indonesian plantations and milling facilities are organized as vertically integrated subsidiaries under Wilmar's subsidiary, PT Sentratama Niaga Indonesia. Wilmar's wholly owned subsidiary, PPB Oil Palms Bhd (PPBOP) owns sub-subsidiaries engaged in oil palm cultivation and operation of palm oil mills. Crude palm oil is directly traded to customers worldwide through Wilmar's marketing subsidiary (Wilmar Trading Pte Ltd). A certain volume of Wilmar's own crude palm oil is further refined and processed to become oleo-chemicals or edible oils by several of PPBOP's sister companies (i.e. PGEO Group Sdn Bhd (Malaysia), PT Multimas Nabati Asahan (Indonesia), PT Sinar Alam Permai (Indonesia) and PT Wilmar Nabati Indonesia (Indonesia)). Wilmar has also established other subsidiaries to handle the trading and shipping of its production (i.e. Equatorial Trading Limited (Malaysia) and its subsidiaries, Wilmar Trading Pte Ltd (Singapore), Wilmar Ship Holdings Pte. Ltd. (Singapore) and its subsidiaries.

Source: Wilmar.

Top Frontier Group (Philippines)

The major subsidiary of the Top Frontier Group is San Miguel Corp (SMC), which has regional operations that connect ASEAN through investment, production networks, integrated business activities, customers and suppliers. Its packaging operations in Malaysia and Viet Nam supply some of the packaging requirements for its brewery operations in Indonesia, Thailand and Viet Nam, as well as its food business operations in Indonesia and Viet Nam. San Miguel Brewery International and other SMC subsidiaries also export to other ASEAN countries, linking the region through trade. Alcohol produced by Ginebra San Miguel, a subsidiary in Thailand, is exported to the Philippines for the subsidiary's own needs.

The packaging business is the major source of packaging requirements for the San Miguel group. SMC's packaging business, through San Miguel Yamamura Packaging Group (SMYPG), has one of the largest packaging operations in the Philippines. It supplies packaging requirements to the other businesses of the San Miguel Group and to customers across the Asia-Pacific region and elsewhere, including major multinational corporations in the Philippines. In addition, SMYPG has packaging facilities located in Malaysia (composite, plastic films and woven bags) and Viet Nam (glass and metal). The San Miguel Group also sources production requirements from other businesses within the region, helping to connect ASEAN countries through production, trade and supplier networks (table 3.4). The group's operations also contribute to the growth of downstream industries and sustain a network of third-party suppliers in different ASEAN countries.

Table 3.4. SMC: Supplier network

Selected supplier	Country	Raw material supplied	Industry or product
PT Sinar Pematang Mulia	Indonesia	Corn grits, rice, tapioca, starch	Beverage
PT Sinar Unigrain Indonesia	Indonesia	Corn grits, rice, tapioca, starch	
Binh Phuoc General Import Export Joint Stock Co	Viet Nam	Corn grits, rice, tapioca, starch, sugar	
Chaodee Trading Co Ltd	Thailand	Corn grits, rice, tapioca, starch, sugar	
Bangkok Can Manufacturing Co Ltd	Thailand	Packaging materials	
Farmarindo Jaya PT	Indonesia	Packaging materials	
Phu Cuong Co	Viet Nam	Fuel	
Vu Anh Hung Co	Viet Nam	Fuel	
Louis Dreyfus Commodities Asia Pte Ltd	Singapore	Soybean and soybean meals	Food
Bunge Agribusiness Singapore Pte Ltd	Singapore	Wheat, soybean and soybean meals	
SCML (Thailand) Co Ltd	Thailand	Coffee mixes	Packaging (metal)
Shinko Shoji Singapore Pte Ltd	Singapore	Aluminium coil	
Polyplex Thailand Ltd	Thailand	PET, CPP, OPP and other films	Packaging (laminates)
PT Kolon	Indonesia	PET, CPP, OPP and other films	
PT Emblem Asia	Indonesia	PET, CPP, OPP and other films	
Connex Pte Ltd	Singapore	PET, CPP, OPP and other films	
SRF Industries (Thailand) Ltd	Thailand	PET, CPP, OPP and other films	
A.J. Plast Pcl	Thailand	PET, CPP, OPP and other films	
Itochu Plastics Pte Ltd	Singapore	Resins	
PT Indorama Polypet Indonesia	Indonesia	PET resin	Packaging (PET)
Indorama Polymers Pcl	Thailand	PET resin	
PTT Polymer Marketing Co Ltd	Thailand	Resin	
Visy Trading Singapore Pte Ltd	Singapore	Kraft paper	Packaging (paper)
Trafigura Pte Ltd	Singapore	Finished products	Fuel and oil
PT Kaltim Prima Coal	Indonesia	Coal	Energy
PT Trubaindo Coal Mining	Indonesia	Coal	
PT Bayan Resources Tbk	Indonesia	Coal	
Vitol Asia Pte Ltd	Singapore	Coal	
Avra Commodities Pte Ltd	Singapore	Coal	
Anthrakas Pte Ltd	Singapore	Coal	

Source: Top Frontier Holdings, 2016 Annual Report.

Note: CPP = cast polypropylene, OPP = oriented polypropylene, PET = polyethylene terephthalate.

Ayala Group (Philippines)

Ayala's subsidiaries in various ASEAN countries have established linkages among themselves (e.g. Manila Water's regional headquarters in Singapore established a close business network with subsidiaries in Indonesia, Myanmar, the Philippines, Thailand and Viet Nam, and with local businesses in these ASEAN countries). Ayala Land (Philippines) is connected with Ayala Land (Singapore), which provides marketing and sales targeting Filipino and Singaporean customers in Singapore.

Globe Telecom (another major subsidiary) contributes to the development of the country's telecommunication infrastructure, which also connects with other ASEAN countries (chapter 4). Globe is a member of the Bridge Alliance, which establishes regional mobile infrastructure and a common service platform. The Bridge Alliance's joint venture partners are in Indonesia,

Malaysia, the Philippines, Singapore, Thailand, and in other Asian economies (e.g. Hong Kong (China), the Republic of Korea, India, Australia).⁶ Globe also has investments in major cross-country cable systems that help connect telecommunication infrastructure throughout ASEAN. They include (i) APCN2 (Asia Pacific Cable Network-2), which links with Malaysia, Singapore and outside ASEAN (e.g. Japan, the Republic of Korea, China); SEA-ME-W3 (Southeast Asia–Middle East–Western Europe); SJC (Southeast Asia–Japan Cable System), which links with Brunei Darussalam and Singapore, including the option to link with Thailand and outside ASEAN (e.g. China, Japan).

JG Summit Group (Philippines)

Through Universal Robina Corp (URC) and Cebu Pacific – two of the JG Summit Group's various major subsidiaries, the group is connected with local suppliers, distributors, retailers and consumers in ASEAN countries. URC subsidiaries in these countries also foster links with local companies through regional supply chain arrangements. For instance, URC Thailand has cross-border trading in countries where the group does not yet have a manufacturing presence (e.g. Cambodia and the Lao People's Democratic Republic). URC's procurement process is managed by its central procurement group, based in Manila. Contracted suppliers deliver the raw materials straight to the subsidiaries operating in different parts of the region. The group and subsidiaries in other ASEAN countries also obtain their packaging requirements from the packaging business headquartered in the Philippines. Cebu Air, another subsidiary, transports passengers across ASEAN, connecting people, countries and cultures.

Aboitiz Group (Philippines)

The Aboitiz Group connects ASEAN countries through its trading operations (i.e. exports and imports of products or raw material from one ASEAN country to another) and subsidiaries' operations in other ASEAN countries (Indonesia, Singapore and Viet Nam). Subsidiaries in Viet Nam source raw materials locally for the production of aqua feeds, which in turn are distributed to local fish farm owners and operators in that host country, and to Cambodia and the Philippines. Pilmico (a subsidiary) in Viet Nam supports the growth of local suppliers in that host country and exports some production abroad. In particular, Pilmico's export activities connect Viet Nam with Cambodia and the Philippines. Another example is AboitizPower, which sources 100 per cent of its coal from Indonesia through direct exports. The group continues to look for opportunity to establish a presence in the power industry in Indonesia.

Singapore Telecommunication (Singapore)

The operations of Singapore Telecommunication (Singtel) together with its regional associates contribute to ASEAN's connectivity in terms of digital infrastructure and production of digital solutions that serve their own individual markets. It enables connectivity at two levels: (i) through telecommunication operations such as mobile and data services, and (ii) through the development of products, applications, platforms and services for subscribers and customers in Singapore and its associates' markets.⁷

Singtel is also connecting the region through digital infrastructure. It invests in telecommunication infrastructure (i.e. submarine cable systems) that requires partnerships and alliances among regional telecommunication and digital-related companies such as Google (United States) in order to build, finance and manage (chapter 4). Such infrastructure provides physical connections that enable the region to link with other parts of the world.

Other connectivity channels include SingPost (logistics) and the laying of undersea cable networks to meet the anticipated data traffic of emerging technologies such as the Internet of Things, analytics and cloud services. SingPost, a leading mail and logistics provider in Singapore, is an associate and non-core operation of Singtel, and has a footprint spanning 10 economies. SingPost plays an important role in supporting the digital value chain in terms of delivery of products and services to digital and online customers. Singtel has significant investments in the submarine cable systems globally, providing diversified international telecommunication connectivity from Singapore to major cities around the world. Singtel is looking forward to the completion of two new cable systems; the Indigo West and Indigo Central Cable Systems linking Singapore, Indonesia, Perth and Sydney in the second quarter of 2019 and the Southeast Asia–Japan 2 Cable System linking Singapore, Hong Kong (China) and Japan in the fourth quarter of 2020.

Sembcorp Group (Singapore)

Sembcorp helps connect ASEAN through its investments, operations and subsidiaries in different Member States. It is a major regional player in economic zone development, particularly in Viet Nam and Indonesia. All of its industrial estate operations in other ASEAN Member States are joint venture arrangements involving local partners. Sembcorp has seven industrial parks in Viet Nam and three in Indonesia. These parks have helped these host countries attract many major MNEs and local companies. The seven Vietnam–Singapore Industrial Parks (VSIPs) have facilitated \$12 billion in investments from some 777 MNEs, which has generated over 224,000 jobs in Viet Nam. Some of the major MNEs that operate in the VSIPs include Foster (Japan), Nokia (Sweden), Unigen (United States), Siemens (Germany), Midea (China), Thermtrol (United States), Procter and Gamble (United States), Oishi (Philippines), Yakult (Japan), Nissin Foods (Japan), Fuji Xerox (Japan) and Universal Robina Corp (Philippines).

Through the VSIPs, Sembcorp is also contributing to the development of industrial clusters (e.g. electronics) and generating benefits in terms of agglomeration of firms, both in the VSIPs and in connection with other industrial parks in the country. For example, Thermtrol (United States), which produces wire harness in the Binh Duong VSIP, contributes to developing the supply chain and supplier linkages. Its customers and suppliers operate in other industrial parks in Viet Nam and in other ASEAN countries. Firms connected with Thermtrol include, for instance, Yazaki EDS (Binh Duong Province), Yazaki (Haiphong at Tra Industrial Park), Yeonho (First Cavite Industrial Estate, Philippines), and Yazaki (YTMI Realty SEZ, Philippines). The Group's marine business has shipyards and shipping-related operations strategically located in Indonesia and Malaysia. The group is also involved in many urban and real estate development projects and in providing utilities to customers in other ASEAN countries.

Siam Cement Group (Thailand)

The Siam Cement Group has more than 90 subsidiaries operating in ASEAN outside Thailand. More than 55 subsidiaries and sub-subsidiaries operate in Cambodia, the Lao People's Democratic Republic, Myanmar and Viet Nam alone. The numbers of subsidiaries in these countries are expected to increase, as the group continues to expand its presence both in these countries and across the region. The group is contributing to regional connectivity through investment, production, regional value chain activities and the group's coordinated logistics system. It is also connecting the region through intrafirm and interfirm trade activities. The vertical integration business model (with upstream and downstream operations) and the group's supply chain network in the region also helps connect countries in the region through the provision of intrafirm services, trading of materials and products, provision of financial support, technical assistance and the development of cross-country human resources to support the operations of the group.

Charoen Pokphand Group (Thailand)

The Charoen Pokphand (CP) Group connects ASEAN countries through its farming, food and telecommunication services. The group has significant investments and extensive operations in the region through subsidiaries in different ASEAN countries (section 3.4). Through True International Internet and Data Gateway Services, the Group helps connect CLM countries (Cambodia, the Lao People's Democratic Republic and Myanmar) with Thailand, the rest of ASEAN and the world. The various online services offered by the CP Group's digital and e-commerce businesses create platforms to connect consumers, sellers and retailers in many ASEAN countries whether to offer, sell, purchase, procure goods and services.

Connecting ASEAN through other means

Aside from engaging in regional production networks and regional value chains (*AIR 2014*), ASEAN MNEs and business groups also help connect the region through the infrastructure they build and own (*AIR 2015*, *AIR 2017*). Some business groups own transportation and logistic businesses, which move their goods in the region and globally (e.g. Kuok Group, Salim Group, Siam Cement Group). Some are involved in developing and owning infrastructure such as the Axiata Group (Malaysia), Salim Group (Indonesia) and Singtel (Singapore), which facilitate digital connection, and others such as the Electricity Generating Authority of Thailand and Banpu (Thailand) in power activities, generating electricity in the Lao People's Democratic Republic for transmission to Thailand.

Many business groups are involved with the development of economic zones in the region (*AIR 2017*). They build industrial infrastructure that helps attract foreign investments and plays an important role in supporting industrial development, including the formation of industrial

clusters in the country. In addition to Sembcorp Group (mentioned above), other examples of such business groups can also be found in the Philippines, where business groups such as the Ayala Corp and JG Summit have built many economic zones. Ayala Corp and its subsidiaries and affiliates have developed more than 50 ecozones in the country, including the Laguna Technopark in partnership with Mitsubishi Corp (Japan) (*AIR 2017*). The Technopark hosted more than 240 tenants in 2017, of which 131 companies are wholly or majority-owned entities from Japan. Table 3.5 lists selected auto-related manufacturing companies in the Technopark; some of the tenants are suppliers to major car manufacturing companies (Honda and Isuzu) also located in the park.

Table 3.5. Auto-related manufacturing tenants in Laguna Technopark, 2017

Selected company	Nationality	Activity
Fujitsu Die Tech Corp	Japan (100%)	Manufacture of dies and moulds, mechanical units for automated machines, and repair services for manufactured goods
Furukawa Electric Autoparts	Japan (99%)	Manufacture and assembly of various auto parts such as steering roll connectors and battery statement sensor
Hankyu Hanshin Logistics	Japan (99%)	Warehousing and storage of semi-finished goods
Honda Cars Philippines	Japan (100%)	Inspection and consolidation of automotive parts into completely knocked down (CKD) parts
Honda Parts Manufacturing	Japan (100%)	Manufacture of various automobile metal-pressed parts such as but not limited to front bulkheads, front and rear bumper beams and fuel tanks, gears and shafts for transmissions, using the latest laser welding techniques
Integrated Microelectronics	British Virgin Islands (50.28%) Filipino (31.59%) Belgium (3.75%) Japan (3.75%) Others (3.75%)	OEM for electronic, medical, motor vehicle, trailer and semi-trailer parts
Isuzu Autoparts Manufacturing Corp	Singapore (99.9%) Japan (.0001%)	Manufacture of motor vehicle and auto parts such as the MVL transmission; crank cases and covers
Laguna Auto-Parts Manufacturing Corp	Japan (100%)	Manufacture and production of vehicle parts and automotive components such as field coils, capacitor switchers, stator products and brush assemblies
Matsushita Industrial Corp (National Panasonic)	Japan (79.9%) Filipino (20.0%)	Manufacture of air conditioners and toaster ovens
Panasonic Precision Devices	Netherlands	Manufacture of multifunction products, sub-assemblies and parts
Shin-Etsu Magnetics	Japan (100%)	Manufacture of electronic components

Source: PEZA.

Emerging MNEs

In recent years, a new group of homegrown ASEAN companies or start-ups have also been connecting the region, facilitated by their rapid expansion in digital businesses (chapter 4). These companies started small, serve niche markets and embrace digital opportunities that link ASEAN markets through e-commerce and fintech platforms. Some have scaled up rapidly and are now investors in other start-ups in their home market and neighbouring countries. They invest or take over other start-ups to acquire skills, technology and assets to strengthen their market position.

3.4. ASEAN Business Group Cases

This section provides case studies of ASEAN business groups which highlight their complex structure, how they use an integrated business model in their operations linking different subsidiaries, their investment motives for investing in ASEAN and their views on regional integration. The cases are based on interviews and information provided in annual reports and extracted from corporate websites before August 2018. These cases should be read in conjunction with section 3.3 on how business groups and their major subsidiaries contribute to connecting ASEAN and chapter 4 on how they transform, adapt and respond to digital opportunities.

3.4.1. Lippo Group (Indonesia)

The Lippo Group operates a portfolio of diversified businesses. It has a strong focus in services industries (e.g. retail businesses, property investment and development, healthcare services, finance, information technology, multimedia and telecommunications) and agribusiness. The group is also increasingly involved with digital businesses such as e-commerce and electronic payment systems. It has more than 700 subsidiaries and sub-subsidiaries. It generated about \$7 billion in sales and employed 250,000 people in 2016.

The Lippo Group has an extensive regional footprint in ASEAN involving countries such as Indonesia, Malaysia, Myanmar, Philippines, Singapore and Viet Nam. It operates through three main investment holding companies (PT Lippo Karawaci (Indonesia), PT Multipolar (Indonesia) and Lippo Limited (Hong Kong, China)), which are listed entities (table 3.6). They are the springboards for the Group's expansion in Indonesia, other ASEAN countries and Asia (e.g. China).

The Group involves a vast network of companies, business brands, sub-subsidiaries and affiliates under each of the three main holding companies. Lippo's Indonesian operations alone, through Lippo Karawach and Multipolar and their subsidiaries, involves more than 20 business brands such as Matahari, and Books and Beyond. Lippo's Hong Kong (China) operations (through Lippo Ltd) manages the Group's businesses, investments and expansion outside Indonesia. For example, Food Junction, a network of food courts in Singapore and Malaysia; and the Delifrance chain of French bakeries in Indonesia, Malaysia and Singapore. The Group is active in real estate, including hotels in Malaysia and Singapore.

Each main holding company consists of a group of companies with three to four or more levels of subsidiaries. For instance, Lippo Karawaci has 454 subsidiaries; Multipolar has 16 subsidiaries and 14 sub-subsidiaries; and Lippo Limited has 185 subsidiaries, 13 associates and 3 joint ventures.

Table 3.6. Lippo Group: Selected key subsidiaries and sub-subsidiaries

Main holding company	Selected subsidiaries and sub-subsidiaries	Industry	Asset (2016)	Revenue (2016)	Stock Exchange
Lippo Karawaci (Indonesia)	Siloam International Hospitals	Healthcare services	\$388.3 million	\$316.8 million	Indonesian Stock Exchange
	Lippo Cikarang (a subsidiary of PT Kemuning Satiatama – a direct subsidiary of Lippo Karawaci)	Real and industrial estate, urban development, publishing, mining, plantation, agriculture, fishery, livestock, conveyance, warehouses and forestry.	\$411.5 million	\$116.1 million	Indonesian Stock Exchange
	First REIT	Healthcare, real estate, investment trust	\$919 million	\$77.45 million	Singapore Stock Exchange
	Lippo Malls Indonesia Retail Trust (LMIRT)	Retail and real estate	\$1.5 billion	\$136 million	Singapore Stock Exchange
Multipolar (Indonesia)	Matahari Department Stores	Retail	\$365 million	\$1.3 million	Indonesian Stock Exchange
	Matahari Putra Prima	Multi-format retail (ie. Hypermart, Supermarket, Food Express FMX)	\$504 million	\$1 billion	Indonesian Stock Exchange
	PT First Media (a subsidiary of Reksa Puspita Karya which in turn is a direct subsidiary of Multipolar)	Multimedia and telecommunications	\$920 million	\$98 million	Indonesian Stock Exchange
	Link Net (a subsidiary of Reksa Puspita Karya which in turn is a direct subsidiary of Multipolar)	Cable television and high-speed broadband internet services	\$380 million	\$72 million	Indonesian Stock Exchange
Lippo Limited	Lippo China Resources Limited (Hong Kong, China)	Investment holding, property investment, food businesses, mining, securities investment, other finance and banking activities	\$735 million	\$323 million	Hongkong Stock Exchange
	Hong Kong Chinese Limited (incorporated in Bermuda but headquartered in Hong Kong, China)	Investment holding, property investment, hotel operation, healthcare services, fund management, underwriting, corporate finance, securities broking, securities investment, treasury and banking services.	\$1.5 billion	\$171 million	Hongkong Stock Exchange
	OUE Limited (a subsidiary of Lippo ASM Asia Property, which is a subsidiary of Hongkong Chinese Limited)	Real estate (owner, developer and operator of real estate portfolio in Asia and the United States)	\$5.9 billion	\$640 million	Singapore Stock Exchange)
	OUE H-Trust (a subsidiary of the OUE Group)	REIT	\$2.3 billion	\$122 million	Singapore Stock Exchange
	OUE C- Reit	REIT	\$3.5 billion	\$178 million	Singapore Stock Exchange
	GSH Corporation Limited	Property development (with a focused in ASEAN)	\$1.5 billion	\$87 million	Singapore Stock Exchange

Sources: Lippo group of companies, 2016 Annual Reports of the different subsidiaries.

Note: Information on the Group were collected based on information extracted before August 2018.

Investment motivation

The investment motivation of the Group depends on industry and subsidiary. In general, market potential, business opportunities, growing middle-income consumers, access to natural resources and the opportunity to add value to the host economy are key determinants. Strategic considerations have also played a role in the group's investment decision in ASEAN, mainly through mergers and acquisitions. The technology revolution and associated opportunities are important factors influencing the group's investment in online e-commerce business and digital services such as electronic payment system.⁸

Regional integration has also increased investment opportunities and encouraged the Group to expand in ASEAN. The portfolio of skills and business experiences within the Group encourage investment and operations in the region. The Group made several strategic investments and expansion in ASEAN between 2015 and 2017. For instance:

- In healthcare, the Group further expanded with investments in hospitals and acquisitions of healthcare related companies in the region. Gentle Care (Singapore), a subsidiary of Lippo Chinese Resources Limited, purchased 55 per cent shares of Healthway Medical Corporation Limited (Singapore) for S\$71.4 million. The latter is a group of private health service companies that owns, operates and manages medical centres and clinics in Singapore.
- Hongkong China Limited acquired a 50 per cent interest in Wealthy Place Limited for about \$138,000 in 2016. Wealthy Place Limited is engaged in property development in Singapore.
- In 2015 and 2016, the Matahari Department Store group through a series of M&A transactions, acquired a stake in PT Global Ecommerce Indonesia (GEI), the parent company of MatahariMall.com, as part of the former's strategy in bringing exclusive brands onto the e-platform business. The Lippo group expanded its e-Commerce retail activities in Indonesia through its Matahari Department Store subsidiary.
- In education businesses, the Group operates through the Pelita Harapan Foundation, which provides private education from primary to tertiary levels to Indonesian and international student. The Group manages some 45 K-12 schools and 3 universities in Indonesia. In entertainment, the group plans to have 1,000 new cinema screens in Indonesia by 2021 through its Cinemaxx unit.⁹

AEC

The Lippo Group welcomes ASEAN's integration and the AEC, which will provide a large market of 640 million consumers with rapidly growing income.¹⁰ The Group has positioned itself with its recent expansions and investments in ASEAN to benefit from regional development and investment opportunities, particularly in the digital economy. The Lippo Group has invested in education, health care, media, broadband and real estate in Indonesia and in other ASEAN countries, and would welcome further investment in the region when opportunities arise, including through partnerships in the region.

3.4.2. Salim Group (Indonesia)

The Salim Group comprises a group of significant conglomerates operating in a diverse range of businesses across ASEAN and in other Asian economies. The primary vehicle for the Group's internationalization drive is through First Pacific Company Limited, headquartered in Hong Kong (China). First Pacific is an investment holding company, established in 1981. Its main businesses include production of consumer food, agribusiness, infrastructure, natural resources, telecommunication and health care services. A majority of First Pacific business operations are based in Indonesia and the Philippines.

The First Pacific group generated \$7.3 billion in revenue and owned \$20.5 billion in assets in 2017. Some 90 per cent of the revenue and assets are related to ASEAN-based operations.¹¹ The group has over 300 subsidiaries and sub-subsidiaries, and employed more than 102,500 employees. The structure of First Pacific group is complex. There are seven main subsidiaries and all of them are themselves major groups of companies (table 3.7). Many of them are publicly listed. First Pacific's businesses were initially focused in banking and financial services, particularly in the 1980s–1990s. During these periods, the group established its first regional footprint in ASEAN with equity investments in Berli Jucker (Thailand) and established Metro Pacific Corporation (Philippines). Of all its subsidiaries, PT Indofood Sukses Makmur (Indonesia) is the biggest and contributed more than 70 per cent of First Pacific's 2017 revenues. It has the most number of subsidiaries and sub-subsidiaries operating in a wide range of activities that are vertically integrated. A majority of the operations are located in Indonesia.

The complexity of the group's structure is also exacerbated by a web of cross-holding of equity ownerships between and among First Pacific (parent company) and its subsidiaries and sub-subsidiaries.

Investment motivation

The group's motivations to invest and expand in the region emanated from the need to diversify risks and markets; maximize access to market opportunities, natural resources and strategic assets (primarily through M&As); and generate sustainable long-term returns. The group also internalized values through integrated business model and cross uses of intra-firm skills, services and advantages.

First Pacific expanded its regional presence in ASEAN in the late 1990s through a series of acquisitions (e.g. PLDT (Philippines) and Indofood (Indonesia)). It also acquired SMART (Philippines), a telecommunication company, through PLDT. In the last decade, the group expanded into other ASEAN countries, particularly in Singapore, Thailand and Viet Nam. Between 2007 and 2009, a series of equity investments were made: in Meralco (power), Maynilad (Water), Makati Medical Center (Hospital), Philex (Mining), and Metro Pacific Tollways Corp (toll roads). Since 2010, the group focused on building its management expertise in these businesses and further expanded these businesses through acquisitions in the region (e.g. Pacific Light Power (power) in Singapore, PT Nusantara Infrastructure (toll roads and other infrastructures) in Indonesia; Don Muang Tollway Public Company (toll roads) in Thailand,

Table 3.7. First Pacific's main subsidiaries and other operations (Selected cases)

Subsidiary	Industry	Products/services	Presence in other ASEAN countries	Operations/activities
Indofood (Indonesia)	Food	Consumer branded products (e.g. noodles, dairy, snack foods, food seasonings), wheat and flour, palm oil and edible oils.	Malaysia, Singapore	Has 20 subsidiaries and 81 sub-subsidiaries. Indofood is a vertically integrated food company in Indonesia. It has more than 50 plants in Indonesia and 40 leading brands. Its agri-business is also vertically integrated spanning the entire supply chain, from upstream plantation to downstream refining, distribution and sales of edible palm oil and derivatives. It also has equity investments in sugar and ethanol operations outside Indonesia (e.g. Brazil) and in Roxas Holdings in the Philippines. Indofood also owned extensive distribution network in Indonesia to support the group's logistics and distribution activities.
PLDT (Philippines)	Telecommunications	Wireless and fixed line services	Myanmar, Singapore	Has 21 subsidiaries and 30 sub-subsidiaries.
Metro Pacific Investments Corporation (MPIC) (Philippines)	Investment Holding Company (focus on power, healthcare, water, toll roads, railways and logistics)	Infrastructure (power, water, toll roads, light rails) and logistics services	Indonesia, Thailand, Viet Nam	Has 15 subsidiaries and 89 sub-subsidiaries. MPIC is an infrastructure investment management and holding company in the Philippines, with investments in the country's electricity distributor Meralco, hospital group, toll road operator and water distributor. MPIC also holds significant investments in logistics and light rail operations, and in an electricity generating operations in Visayas (Philippines). Aside from the Philippines MPIC is a partner in CII Bridges and Roads Investment JSC (Viet Nam), Don Muang Tollway (Thailand) and PT Nusantara Infrastructure (Indonesia).
Philex Mining Corporation (Philippines)	Exploration and mining	Gold, copper and silver	Domestic focused	Has 6 subsidiaries and 2 sub-subsidiaries.
FPM Power Holdings Limited (Hong Kong, China)	Power generation and distribution	Retail power	Singapore	FPM controls Pacific Light Power, which operates an 800-megawatt natural gas-fired combined cycle facility. Its wholly owned subsidiary Pacific Light Energy (Singapore) offers retail electricity to customers in Singapore.
FP Natural Resources Limited (Hong Kong, China)	Investment holding	Natural resources	Philippines	FP Natural Resources together with its Philippine affiliate (First Agri Holdings Corporation) hold interests in Roxas Holdings and First Coconut Manufacturing Inc. The former is a leading integrated sugar producer in the Philippines and also the country's largest ethanol producer.

Sources: 2017 Annual Reports of First Pacific, Indofood, MPIC and website of the respective companies.

Notes: As at 20 March 2018, First Pacific's economic interest in Indofood is 50.1%, in PLDT 25.6%, in MPIC 42%, in FPM Singapore Holdings 50%, in Philex 31.2%,¹² in FPM Power Holdings Limited 67.6%¹³ and in FP Natural Resources Limited 79.4%.¹⁴

Boo Phu Ninh Water Treatment Plant Joint Stock Company (water) in Viet Nam (table 3.8). In 2015, it also acquired a 44.9 per cent stake in CII B&R JSC (Viet Nam), which has various road and bridge projects in Ho Chi Minh City. In more recent years, the group further invested in PT Nusantara Infrastructure (Indonesia).

The group's investment location choices are driven by locational advantages (i.e. domestic market size, economic growth, opportunities to benefit from economies of scale and lower production costs). Government policies towards private sector participation such as through build-operate-transfer and similar arrangements also played a role in influencing investment decisions. For instance, MPIC's investment into infrastructures is influenced by the Philippine government's opening up of development of several kinds of infrastructure to the private sector.¹⁵

First Pacific's expansion in the region is basically focused on infrastructure in has expertise. The expansion is through acquisition of equity stakes in existing companies. This allows the group to enter the market immediately, rather than going through a build-up period and through joint ventures with domestic partners.

Table 3.8. First Pacific investments in ASEAN, 2013 to 2018 (Selected cases)

Subsidiary	Year	Industry	Country	Remarks
AIF Toll Road Holdings (Thailand)	2013	Infrastructure: Toll roads	Thailand	29.4% stake in Don Muang Tollway Public Company Limited. Business partner: Panichewa Group
FPM Power Holdings Limited (Hong Kong, China)	2013	Power	Singapore	70% of GMR Energy (Singapore) (now PacificLight Power) for \$488 million Domestic partner: 30% owned by Petronas Malaysia
Metro Pacific Tollways Corporation (Philippines)	2015	Infrastructure: Toll roads	Viet Nam	44.9% stake in CII B&R for \$89.8 million. Domestic partner: Ho Chi Minh City Infrastructure Investment
PT Metro Pacific Tollways Indonesia (Indonesia)	2017	Infrastructure: Toll Roads	Indonesia	42.25% stake in PT. Nusantara Infrastructure for \$137 million, bringing up its interest to 47.08%. Domestic partners: Rajawali Corpora Group and Kalla Group
MetroPac Water Investments Corporation (Philippines)	2017	Infrastructure (Water)	Viet Nam	45% stake in Boo Phu Ninh Water Treatment Plant for \$12.2 million
MetroPac Water Investments Corporation (Philippines)	2018	Infrastructure (Water)	Viet Nam	49% stake in Tuan Loc Water Resources

Sources: First Pacific website, 2017 Annual Report and media news.

AEC

Similar to other business groups, the Salim Group welcomes the formation of the ASEAN Economic Community. The Group recognizes that while there is a bigger market that will be formed in an integrating ASEAN, there will also be intensified competition. As such, the Group has included the realization of the AEC in its expansion strategies in Southeast Asia, particularly for its Indofood operations.¹⁶ The Group is well prepared and positioned to tap and benefit from a wider market when the AEC is realized.

3.4.3. Sinar Mas Group (Indonesia)

The Sinar Mas Group is one of the largest diversified business groups in Indonesia. It had an estimated \$33 billion in assets and employed more than 250,000 people in 2016. The group operates in seven key industries (pulp and paper products, agribusiness and food, property and real estate development, financial services, communications and technology, and energy and infrastructure) through more than 400 companies.

The seven business units are separate entities and managed independently. They are multilayered, multisectoral and/or integrated conglomerates with their own sets of subsidiaries and sub-subsidiaries. Each main subsidiary has three or more layers of direct and indirect subsidiaries and sub-subsidiaries. For instance, Sinarmas Land Ltd (Singapore) established PT Bumi Serpong Damai (BSD) (Indonesia), which in turn has 24 subsidiaries. One of BSD's subsidiaries (PT Duta Pertiwi) has 27 subsidiaries and 4 sub-subsidiaries.

Most of the group's operations are based in ASEAN, with more than 80 per cent of its operating companies and affiliates, 70 per cent of its assets and more than 50 per cent of its revenues are generated in the region. Its business unit Asia Pulp and Paper has sales and marketing offices in all ASEAN countries. Sinarmas Land Ltd – the holding company for its property business is domiciled in Singapore – owns many properties in Indonesia, Malaysia and Singapore.

Some of the group's business units are conglomerates in their own rights. For example, Golden Agri-Resources Ltd (GAR), headquartered in Singapore, is involved in integrated palm oil plantation and manufacturing activities. It in turn has more than 190 subsidiaries, based in Indonesia, Malaysia, Singapore, China and other countries. Most of its subsidiaries are in Indonesia.

In 2017, GAR employed more than 104,000 people in Indonesia alone. Some 21 per cent of all GAR sales in 2017 was generated from ASEAN countries other than Indonesia; about 26 per cent of assets were located in Singapore and Malaysia. In 2017, about 17 per cent of GAR's subsidiaries and sub-subsidiaries were based in Singapore and Malaysia compared with 10 per cent in 2007. A decade ago most of the subsidiaries were located in Indonesia, and therefore the value of GAR assets in other ASEAN countries was minimal.¹⁷

The main holding companies in each business sector are major players in their industries. Golden Agri-Resources (Singapore) is one of the world's largest integrated palm oil plantation companies. PT Pabrik Kertas Tjiwi Kimia (Indonesia) produces over 19 million tons of paper products per year and markets them to more than 120 countries; it has expanded some of its business operations to Malaysia and China. Sinar Mas Ltd (Singapore) operates in the property business in Indonesia, Malaysia, Singapore and outside ASEAN.

The main subsidiaries are listed in the Indonesia Stock Exchange or the Singapore Stock Exchange, or both (table 3.9). Some of the sub-subsidiaries are also publicly listed (e.g. Golden Energy and Resources and PT Golden Energy Mines are respectively listed in Singapore and in Indonesia). Although each of the business units in the group is managed independently, the main subsidiaries share a common heritage, as all are majority owned by the Widjaja family.

Table 3.9. Sinar Mas: Main subsidiaries and ownership

Main subsidiary	Stock exchanges	Shareholders
PT Indah Kiat Pulp & Paper Tbk (Indonesia)/Asia Pulp and Paper	Indonesia	PT Purinusa Ekapersada (52.7%) Public (47.3%)
PT Pabrik Kertas Tjiwa Kimiar Tbk (Indonesia)/Asia Pulp and Paper	Indonesia	PT Purinusa Ekapersada (60%) Public (40%)
Golden Agri-Resources Ltd (Singapore)	Singapore	Widjaja Family Master Trust (2) (deemed interest – 50.3%)
Sinar Mas Ltd (Singapore)	Singapore Indonesia	Public (29.7%) Golden Moment Ltd (5.7%) (direct) Flambo International Ltd (64.4%) (direct) Widjaja Family Master Trust (2) (70.3%) (deemed)
PT Sinar Mas Multiartha (Indonesia)	Indonesia	Bank of Singapore Ltd S/A PT Sinar Mas Cakrawala (51.1%) PT Sinar Mas Cakrawala (7.8%) Public (41.1%)
PT Smartfren Telecom (Indonesia)	Indonesia	Widjaja Family through - PT Bali Media Telekomunikasi (31.1%) - PT Wahana Inti Nusantara (29.7%) - PT Global Nusa Duta (27.4%) Public (11.8%)
PT Dian Swastatika Sentosa (Indonesia)	Indonesia	PT Sinar Mas Tunggal (59.9%) ^a Public (40.1%)

Source: Sinar Mas.

^a PT Sinar Mas Tunggal represents the Widjaja family.

Investment motivation

The evolution of Sinar Mas from a trading business to a large conglomerate with integrated business operations in various industries in ASEAN was driven by three factors: market opportunities, resource-seeking, and pursuit of an integrated business strategy to internalize a portfolio of skills available within the group. Its investment location choice is influenced by other factors: a potential market for its products, a conducive political and economic environment, well-established infrastructure and availability of human resources. For example, Sinar Mas has its agribusiness (palm oil plantations) and food business operations in Indonesia (where it owns plantations and mills), in Malaysia (where raw materials as well as crude palm oil and other palm oil products are traded with other palm oil-related businesses in that country) and in Singapore (where distribution of the palm oil-related products is coordinated and transported to countries within and outside ASEAN).

GAR invests abroad to strengthen its value chain and integrated business. It has established a marketing outfit in Singapore to market its palm oil globally (box 3.6).

Box 3.6. Golden Agri-Resources Ltd

Golden Agri-Resources was established in 1996 and listed on the Singapore Exchange in 1999. One of the leading integrated palm oil businesses, it is engaged in cultivating, harvesting and processing fresh fruit bunches into crude palm oil (CPO) and palm kernels as well as refining CPO for production of industrial and consumer products (e.g. cooking oil, margarine, shortening, oleo-chemicals and biodiesel). The company generated \$7.5 billion in revenue in 2017. In Indonesia, it manages 172 oil palm plantations and many mills and refineries of crude palm oil.

PT Smart, one of its major subsidiaries, has 16 mills, 4 kernel-crushing plants, and 4 refineries across Indonesia (all in close proximity to the oil palm plantations). Another subsidiary, Victory Tropical Oil, markets and distributes the company's palm oil to Europe and the United States and its oleo-chemicals through Victory offices in the Netherlands, Spain and the United States. PT Soci Mas, a subsidiary of PT Smart, produces oleo-chemicals for domestic consumption and export through its commercial office in Singapore. PT Dami Mas Sejahtera, another subsidiary, produces palm oil seeds for intrafirm use and sells high-yielding seeds to other oil palm plantation businesses.

To strengthen its supply chain and to meet logistics and distribution requirements, GAR operates its own shipping fleet and invests in its own distribution infrastructure. They include strategically located bulk loading stations, warehouses, and jetty and port facilities. These facilities are owned by GAR through subsidiaries based in Indonesia, Malaysia, Singapore, India and China. To support its distribution and logistics capabilities, the company also has joint ventures with global transportation player Stena (Denmark). Its business units in Singapore and Malaysia focus mostly on trading activities with global customers.

Source: Golden Agri-Resources.

AEC

Sinar Mas welcomes the integration of the ASEAN economies through the AEC, which can become a major driver for the group to invest and expand in the region. The Group believes that the AEC can increase the competitiveness of the Group's products (for example, GAR products) in ASEAN markets with more efficient logistics and lower tax costs. In particular, GAR sees that the AEC could accelerate the current payback period of its investments in other ASEAN countries. The Group recognizes that the AEC could also bring about more and stronger competition as other companies could efficiently sell their products in other ASEAN markets.

3.4.4. Triputra Group (Indonesia)

PT Triputra Investindo Arya (Triputra Group) is one of the largest conglomerates in Indonesia, with more than 140 subsidiaries in four business segments. The segments include manufacturing activities (i.e. garments and automotive parts); agribusiness (i.e. rubber, palm oil, rice, corn and coffee); mining; and trading, services and logistics (i.e. car rental, dealerships). The Triputra Group began as a holding company in 2005 for two companies (Adira Mobil and Adira Finance).

In a short span of time it has grown into a major Indonesian conglomerate involved with various major business activities (table 3.10). The Group generated \$3 billion in revenue in 2017 and had more than 50,000 employees.

Table 3.10. Triputra Group: Major business activities

Business segments	Main subsidiary	Activity
Manufacturing and industry	• Pako Group • Dharma Group • Bina Busana Internusa • Lemindo Group	• Wheel rim manufacturing • Automotive component manufacturing • Manufacturing of garments and fashion apparel • Manufacturing of adhesives and building materials
Agribusiness	• Triputra Agro Persada • Kirana Megatara	• Palm oil plantation and refinery • Crumb rubber and rice processing
Mining	Padang Karunia Integrated Coal Co	Coal mining
Trading and services	• Daya Group • ASSA Rent • Puninar Logistics	• Four- and two-wheel dealerships, health care services, industrial real estate • Transportation services • Total logistics solutions

Source: Triputra Group website.

Most of the main subsidiaries have grown into large groups of companies themselves. For example, PT Triputra Agro Persada, established in 2005, has 31 subsidiaries in palm oil plantation and refinery activities. Another example is the Lemindo Group, which has expanded to Viet Nam. In addition, publicly listed PT Adaro Energy is an affiliate. The group has a significant equity stake in Adaro Energy, which is a vertically integrated energy producer in Indonesia with businesses in the coal, energy, utilities and supporting infrastructure industries.¹⁸ Adaro Energy has more than 59 subsidiaries operating in eight industries (i.e. mining, mining services and trading, logistics, power, land development, water, capital and foundation).

Investment motivation

The group believes in strengthening its bases in Indonesia prior to expanding abroad, as the home country is a large market with ample opportunities for development. Strengthening its bases domestically would ensure that the group could add more value to its expansion projects. However, the group sees that the integration of the ASEAN economies offers opportunities. Reinforcing its domestic bases would help the group be more ready to take advantage of opportunities in the near future.

Despite its strong domestic orientation, the group has established a presence in a few ASEAN countries where opportunities are in line with the group's operational thrusts. It has a subsidiary in Singapore that handles its trading and finance-related activities. Lemindo, its adhesive manufacturing subsidiary, has established production facilities in Viet Nam. Adaro Energy has a Singapore-registered subsidiary (Coaltrade Services International) that handles the group's trading operations.

Although its presence in other ASEAN countries is still minimal as a share of its total businesses, the group has encouraged business groups from other ASEAN countries to expand in Indonesia through joint ventures. Several ASEAN business groups have approached the group about possible business partnerships to serve the Indonesian market. For instance, the group has partnered with Bounty Fresh Food (Philippines) in the poultry business and with Siam Cement Group (Thailand) for cement production in Indonesia. Adaro Energy's largest mining company (PT Adaro Indonesia) is a joint venture in Indonesia with the Electricity Generating Authority of Thailand International Co Ltd (11.5 per cent share).¹⁹

AEC

The group believes that ASEAN's integration through the AEC will provide further opportunities and challenges to investors. The group values free trade and investment flows in ASEAN and holds the view that fair and free competition should be embraced by both the public and the private sector in an integrated region. Such competition will help firms to grow and strengthen their efficiency, productivity and innovation.

3.4.5. Axiata Group (Malaysia)

Axiata Group Bhd is a major regional telecommunication service provider with a presence in most ASEAN countries. The group operates in three major business segments: digital telecommunication, digital businesses and infrastructure. These segments involve various subsidiaries and sub-subsidiaries located in different countries. The group operates in 11 countries (in ASEAN: Malaysia, Cambodia, Indonesia, Myanmar, Singapore and Thailand; in South Asia: Bangladesh, India, Nepal, Sri Lanka and Pakistan). In 2017, the group generated \$6 billion in revenue, reported \$17.2 billion in assets,²⁰ employed 27,000 people and supported more than 1.2 million jobs (directly and indirectly).

Formerly known as TM International Bhd (TMI), the company was incorporated in 1992 as the mobile and international operations arm of Telekom Malaysia Bhd. In 2008, Axiata was listed on the Malaysian Stock Exchange. Since then, Axiata has transformed itself from a pure-play mobile communication service provider (voice and SMS-centred) and aims to be a new generation digital champion by 2021, with a diverse portfolio in digital telecommunication networks, digital services and communications infrastructure. Axiata has more than 30 subsidiaries and sub-subsidiaries operating in different segments of the digital value chain and in different ASEAN countries (table 3.11).

A majority of the group's revenues are generated outside Malaysia. In 2017, revenue sources came from the following countries:²¹ Malaysia, \$1.6 billion; Indonesia, \$1.7 billion; Cambodia, \$0.3 billion; Bangladesh, \$0.8 billion; Sri Lanka, \$0.6 billion; Nepal, \$0.6 billion.

Table 3.11. Axiata businesses, subsidiaries and locations, 2018

Core businesses	Main subsidiaries	Investment activity	Presence in ASEAN (excluding Malaysia)	Presence in other countries	Remarks
Digital telecom-munications	• Celcom Axiata (Malaysia) • Smart Axiata (Cambodia) • XL Axiata (Indonesia) • M1 (Singapore)* • Dialog Axiata (Sri Lanka) • Robi Axiata (Bangladesh) • Ncell (Nepal) • Idea (India)*	• Convergence digitalization	• Cambodia • Indonesia • Singapore	• Bangladesh • Sri Lanka • Nepal • India	• Smart Axiata provides mobile telecommunication services for mass consumers and homes. • Celcom Axiata, XL Axiata and M1 provides mobile and fixed fibre services.
Digital businesses	• Axiata Digital Services • Axiata Business Services (Xpand)	• Digital financial services • Digital advertising • Digital platforms • Digital ventures • Enterprise solutions • Internet of Things	• Indonesia • Philippines • Singapore • Thailand	• Bangladesh • India • Sri Lanka	• Axiata Digital Services is a holding company. It provides digital services through various subsidiaries. • Xpand provides enterprise and Internet of Things solutions to clients.
Infrastructure	• Edotco Group and its subsidiaries (Malaysia, Cambodia, Myanmar, Bangladesh, Pakistan, Sri Lanka)	• Telecommunication towers	• Cambodia • Myanmar	• Bangladesh • Pakistan • Sri Lanka	• Edotco owns, builds and manages a portfolio of over 27,500 towers.

Sources: Websites of Axiata, edotco, M1 and XL Axiata, and 2017 annual reports of companies.

* Associates or affiliates.

Digital telecommunication

Axiata has grown to be a regional digital telecommunications network operator. It now connects and provides telecommunication services to 350 million customers in ASEAN and South Asia, from just 40 million in 2009. In ASEAN, Axiata operates in Cambodia (through its subsidiary Smart Axiata), Indonesia (through XL Axiata) and Singapore (through M1 as an associate/affiliate).

Digital businesses

Started in 2014 with the establishment of Axiata Digital Services and followed by Axiata Business Services in 2017, Axiata's digital businesses now involve four business lines: digital financial services, digital advertising, enterprise and Internet of Things solutions, and digital platforms. Axiata Digital Services has expanded rapidly to cater to the lucrative digital market, targeting customers who connect via smartphones and tablets. Its portfolio of digital services, built through acquisition or developed in-house, covers digital advertising and activation, digital commerce and marketplace, mobile money, digital entertainment and education and digital platforms. Through its digital venture activities, it has invested into various digital business

brands such as mobile insurance, e-commerce, entertainment and education. Under Axiata Digital Services' portfolio are brands such as Boost, ada, apigate, 11Street, Storeking, wow. lk, BIMA, Adknowledge Asia and etobee. The group's digital financial services offerings include payments, remittance, lending, savings and insurance via Boost in Malaysia, XL Tunai in Indonesia, SmartLuy in Cambodia and ezCash in Sri Lanka.

Infrastructure

Edotco is a regional, integrated telecommunication infrastructure services company established in 2012. In the last five years, it has expanded to become the twelfth largest independent tower company in the world.²² In 2017, it owned, managed and operated 27,500 towers and 696 green sites (comprising renewable energy and alternative material sites). In ASEAN, the company owns towers through its subsidiaries in Cambodia (2,170), in Myanmar (1,400) and in Malaysia (4,000).

Investment motivation

Axiata's internationalization is connected with the group's objective to become a leading telecommunication player in Asia. The group continuously looks for opportunities to invest abroad to expand its market as a mobile operator, into new telecommunication-related ventures and to expand the capacities of its existing operations. The attractive market conditions (economic growth, market size and digital development) and opportunities in ASEAN and in South Asia drive Axiata's choices of investment location. Table 3.12 highlights Axiata's recent investments in ASEAN.

The group has also been expanding by acquiring strategic assets that add value to the group's operations and provide quick access to markets, including skill sets. For instance, Adknowledge Asia Pacific (a sub-subsidiary) acquired Komli's (India) South-East Asia business operations in 2015 to quickly scale up its presence and operations in South-East Asia. Komli's geographical spread and diversified revenue streams add value to Axiata's operations. In the same year, Axiata acquired a 75 per cent stake in Myanmar Tower Co from Yoma Strategic (Myanmar), which owns 1,250 towers in that country. The acquisition enabled Axiata to expand and penetrate the largely untapped Myanmar market, which then had a low mobile penetration rate. It boosted edotco's tower assets by 9 per cent in 2015.²³

For joint ventures, strong local partners are an important consideration in the decision to enter a market. Strategic alliances with local partners have influenced Axiata to venture abroad. For instance, Axiata Digital Services has a strategic partnership investment with BIMA, a Swedish microinsurance company.²⁴ Axiata had already worked with BIMA as a partner in several markets. An investment deal in 2017 made Axiata a shareholder and opened up new high-growth markets across Asia to Axiata, as BIMA has a presence in 16 countries in Africa, Latin America and Asia, and 277 million customers.²⁵ The investment made Axiata a shareholder and deepened its relationship with BIMA in offering insurance services to underserved families in the region.²⁶

Another investment motivation was to expand into complementary businesses that support demand for Axiata's mobile broadband operation through increased data usage by customers such as those of Yonder Music and digital financial services. The Axiata Group has also entered online marketplaces, with Elevenia in Indonesia and 11Street in Malaysia, and made significant inroads in mobile money with five mobile payment applications in five countries.

Table 3.12. Axiata's investments in ASEAN, 2013–2018 (Selected cases)

Subsidiary	Year	Investment activity	Locations
XL Axiata	Construction ongoing (target completion 2018)	Part of the Australia–Indonesia–Singapore submarine cable communication system that connects Australia and Singapore via Indonesian waters	Indonesia Singapore Australia
Axiata Digital Services	2017	\$16.8 million investment in BIMA, a microinsurance player from Sweden	Cambodia and other emerging markets in Asia
Axiata Business Services	2017	Acquisition of a 65% stake in Suvitech, a Thailand-based IT solutions and service company, for \$11 million	Thailand
Adknowledge Asia Pacific (80% owned by Axiata Digital Advertising, which is wholly owned by Axiata Digital Services, a wholly owned subsidiary of Axiata)	2015	Acquisition of the Southeast Asia operations of digital advertising firm Komli (India), for \$11.5 million; includes Komli Media operations in Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam ^a	Indonesia Malaysia Philippines Singapore Thailand Viet Nam
edotco Group (through its subsidiary, Digicel Asian Holdings)	2015	Acquisition of a 75% stake in Digicel Myanmar Towerat an enterprise value of \$221 million	Myanmar
XL Axiata	2014	Acquisition of a 95% stake in Axis Telekom from Saudi Telecom Co and its Teleglobal Investments for \$865 million	Indonesia
Hello Axiata	2013	Merger with Latelz Cambodia worth \$156 million; emerging as Smart Axiata	Cambodia
XL Axiata	Construction ongoing (target completion 2018)	Part of the Australia–Indonesia–Singapore submarine cable communication system that connects Australia and Singapore via Indonesian waters	Indonesia Singapore Australia

Sources: Axiata's and subsidiaries' websites and respective annual reports.

^a Komli Media's Southeast Asia Operations Bought by Axiata for \$11.5 million, Medianama, 7 August 2015 (<https://www.medianama.com/2015/08/223-komli-axiata>).

AEC

Axiata already has a significant regional presence across ASEAN and continues to expand regionally. The company expects that the AEC will further integrate economies in the region and that investment opportunities will increase with lower market entry barriers and better harmonization of legal and regulatory regimes (e.g. data privacy and cross-border data flows) as well as greater spectrum regulatory cooperation. As a regional telecommunication MNE, Axiata will be motivated by the AEC to further invest and upgrade its operations in the region – thereby further strengthening regional telecommunication connectivity and supporting development of the digital economy.

3.4.6. CIMB Group (Malaysia)

CIMB Group Holdings Berhad, headquartered in Malaysia, is a major regional player in the banking industry with a presence in 15 economies including nine Southeast Asian countries. It is the fifth largest universal bank in ASEAN by assets and is a government-linked company. It has an extensive retail branch network in the region (about 830 branches – table 3.13). It has a workforce of over 36,000 employees and \$127 billion in assets as at end June 2018. The group's core business activities cover retail, corporate and investment banking.

CIMB started in 1924 as Bian Chiang Bank and has been listed on the main market of Bursa Malaysia since 1987. The Group's key operating subsidiaries include CIMB Bank Bhd, CIMB Investment Bank Bhd and PT CIMB Niaga Tbk. The main subsidiaries under CIMB Bank Bhd include CIMB Thai Bank Public Company Ltd, CIMB Islamic Bank Bhd, CIMB Bank (Cambodia) plc and CIMB Bank (Viet Nam) Ltd.

Table 3.13. CIMB: Network of operations in ASEAN

Operation/entity	Country	Number of branches/offices
Universal Bank	Indonesia	455 branches and 72 payment and cash centers, digital lounges and mobile cash vans
	Malaysia	269 branches
	Thailand	84 branches
	Cambodia	13 branches
	Singapore	2 branches
	Lao PDR	1 branch
	Viet Nam	1 branch
Investment Bank	15 countries across Asia Pacific	..
Representative Office	Myanmar	..

Source: CIMB.

Note: The group is establishing a presence in the Philippines with the first branch expected to begin operations by the 4th quarter of 2018.

Investment motivations

CIMB's investments and expansions in ASEAN can be viewed in two stages: (i) becoming a regional player in the banking industry with a presence in all ASEAN countries and at the same time expanding its portfolio of banking related services (i.e. commercial banking, investment banking, securities), and (ii) remaining relevant in the digitalization age. CIMB's expansion in the region started in the early 2000s (table 3.14). Driven by its objective in becoming a leading player in ASEAN, CIMB made a number of strategic acquisitions in the region in various years.

The second stage of its regional expansion was largely influenced by its objective of ensuring that the group remains relevant as a key player in the age of digitalization and of having a deep presence in ASEAN, with strategic links to Asia Pacific and beyond.

Table 3.14. CIMB: Expansion in ASEAN (Selected cases)

Year	Activities	Host country
2002	Acquisition of a majority stake in PT Bank Niaga	Indonesia
2005	Acquisition of GK Goh Securities	Singapore
2008	CIMB Niaga established through a merger between Bank Niaga and Bank Lippo	Indonesia
2008	Acquisition of Bank Thai (which was renamed as CIMB Thai in 2009)	Thailand
2009	Launched retail banking operations in Singapore	Singapore
2010	Launched banking operations in Cambodia	Cambodia
2012	Acquisition of Asia Pacific cash equities and associated investment banking businesses of the Royal Bank of Scotland (United Kingdom)	Asia Pacific
2012	Acquisition of SICCO Securities (a stock brokerage firm)	Thailand
2016	Opened a first branch in Viet Nam	Viet Nam
2018	Opening a first branch in Philippines later in the year	Philippines

Source: CIMB.

AEC

The AEC has inspired the proliferation of multinational ASEAN corporations, like CIMB, to participate in and benefit from its mandate. CIMB is well positioned to facilitate the greater trade, investments and travel that will emerge from the AEC. The group expects rules and regulations for cross-border banking to ease and expects that the AEC will bring down more barriers to business. Regionalizing CIMB has given the company access to a much larger market and cross-border networks, and looking ahead, the scale to potentially benefit from technology and to grow.²⁷

Despite having a significant presence in ASEAN, the group welcomes the AEC, which will facilitate CIMB's further engagement in the region and the realization of its vision of becoming a leading regional banking group. CIMB Group will continue to invest and expand regionally when opportunities arise under the AEC.

3.4.7. Kuok Group (Malaysia)

The Kuok Group is one of the largest business groups in ASEAN with its origin in Malaysia. It has a complex business structure and is involved in more than 10 major industries, from property development to hospitality, logistics, media, maritime, commodities and agribusiness. It is engaged in a number of value chains, supported by its integrated business model. In 2017, the Kuok Group owned at least \$50 billion in assets, involving more than 520 companies with different layers of subsidiaries and sub-subsidiaries. This number excludes joint ventures, minority owned entities and associates. It operates in five continents and employs more than half a million people. A majority of its operations and 65 per cent of its workforce are in ASEAN.

The Group operates through three main holding companies based in Malaysia, Singapore and Hong Kong (China). These holding companies in turn own several major conglomerates

such as the PPB Group, headquartered in Malaysia; Wilmar International, in Singapore; and Kerry Logistics, in Hong Kong (China). Some of these major subsidiaries are leaders in their industries. For instance, Wilmar is a leading agribusiness MNE in Asia. Adding to the complexity of the Group is cross-holding of equity among member companies. For instance, the PPB Group (Malaysia) has an 18.5 per cent equity interest in Wilmar (Singapore). In some businesses, the Group controls a significant part of the value chain (e.g. Wilmar, in the oil palm business) – internalizing value creation within the group by having subsidiaries and sub-subsidiaries operating in different ASEAN countries.

Internationalization

Despite its active internationalization, the Kuok Group remains a significant regional investor in ASEAN, where many of its major businesses are headquartered (box 3.7). For example, the PPB Group has 73 subsidiaries and 65 of them are in ASEAN countries (excluding in Malaysia). Wilmar has non-current assets amounting to \$17 billion in 2017, with more than 40 per cent in ASEAN countries. It has 19 significant subsidiaries, of which 15 are in ASEAN (including Malaysia and Singapore). As of 31 December 2017, it has over 500 plants worldwide and around 100 are in the region. A majority of Kerry Logistics' operations are also located in ASEAN.

The PPB Group (Malaysia) operates with a complex structure of its own subsidiaries and sub-subsidiaries. For instance, PPB established FFM Sdn Bhd, another investment holding company focused on grains trading, flour and feed milling, and bakery products. FFM in turn has its own subsidiaries engaged in the grains, flour and feed production chains: from plantations to grains and from flour milling and refining to production, including trading and distribution. The subsidiaries involved in grains plantation and milling are located mainly in Malaysia, Indonesia and Viet Nam.

Box 3.7. Kuok Group: Major subsidiaries (Selected cases)

PPB Group (Malaysia) is an investment holding company. It is a conglomerate with a strong focus on agribusiness, property, film distribution and leisure and entertainment businesses. It had \$5.5 billion in assets and a market capitalization of \$4.5 billion as at 31 December 2016. It has operations in Indonesia, Myanmar, Singapore, Thailand, Viet Nam and China. Of its 6,000 employees, more than 3,500 are in Malaysia.

Pacific Carriers (Singapore) is a major MNE in the shipping industry. It has a significant presence in Malaysia, Australia, the United States and the United Kingdom. It is also a leading dry bulk operator, with a growing fleet. As of 2017, Pacific Carriers had 64 bulk carriers and 16 tankers.

POSH (Singapore) is a leading offshore marine services provider with over 100 vessels serving multiple segments of the offshore oil and gas value chain in Asia, Africa, the Middle East, and North and Latin America. In 2017 it generated \$192 million in revenue and held \$764 million in non-current assets in ASEAN. POSH has 42 subsidiaries (of which 27 are in Singapore, 2 in Malaysia and 1 in Brunei Darussalam) and 9 joint ventures of which 4 are in Singapore and 2 in Indonesia. Some of these subsidiaries and joint ventures have established their own subsidiaries.

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Box 3.7. Kuok Group: Major subsidiaries (Selected cases) (Concluded)

The FFM Group (Malaysia) is engaged in grains trading, flour milling, feed milling and bakery products. It is a regional player operating flour mills in Indonesia, Thailand, Viet Nam and China. It has 19 directly owned subsidiaries in Malaysia, 1 in Indonesia, 1 in Myanmar and 2 in Viet Nam.

PaxOcean Group (Singapore) operates six shipyards, with three located in Indonesia, one in Singapore and two in China. It is a leading international player in shipbuilding and repair services. PaxOcean Shipyard is engaged in offshore services and engineering, ship repair and maintenance, shipbuilding and conversion, rig building and refurbishment, offshore fabrication, floating production storage and offloading and floating storage and offloading conversion, maritime clusters and dedicated offshore platform facility fabrication. PaxOcean supports its sister shipping companies (i.e. Pacific Carrier Ltd, Malaysian Bulk Carriers and other shipping subsidiaries within the Kuok Group such as those owned by Wilmar and PPB) in their operations of transporting bulk materials within ASEAN (e.g. coal, sugar, grains) and in China. PaxOcean also supports other shipping companies that are doing business in the region and in China.

AllGreen Properties Ltd, a subsidiary of both Kuok Singapore Ltd and Kerry Holdings (Hong Kong, China), has 36 subsidiaries in Singapore, 10 in China, 4 in Viet Nam, 1 in Myanmar and 1 in Malaysia. Some of its landmark properties in Singapore are Great World City, Tanglin Mall, Tanglin Place, the Suites at Orchard, Cairnhill Residences, and the One Devonshire and Holland Residences.

Kerry Logistics (Hong Kong, China), a large group of companies, is one of Asia's premier logistics service providers that offers end-to-end supply chain solutions for multinational companies and international brands – from sourcing and manufacturing to selling. Its global network stretches across six continents and includes the largest distribution network and hub operations in the Greater China and ASEAN region. Although Kerry Logistics is headquartered in Hong Kong (China) and its market is global, a majority of its facilities (both owned and leased) are in ASEAN and South Asia (39 per cent), and in China (31 per cent). The rest are in Hong Kong (China) (11 per cent), Taiwan Province of China (13 per cent), Europe (2 per cent) and other locations (4 per cent).

Sources: Annual reports of subsidiaries and their websites.

Investment motivation

The Kuok Group has a broad range of businesses in ASEAN involving different value chains and driven by different investment motives (i.e. market-seeking, resource-seeking, efficiency-seeking and strategic reasons). The Group pursues integrated business operations, internalizing value creation within the Group. The integrated arrangement enables members of the Group to draw on skill sets and expertise within the Group through specialized subsidiaries or affiliates.

Aside from the Kerry Logistics Group (Hong Kong, China), many of the Kuok Group's logistics and shipping subsidiaries are headquartered in Singapore, influenced by business opportunities and the city-state's port and logistic operation facilities. The Kuok Group also owns shipyards in Indonesia, Malaysia, and Singapore (and outside ASEAN in China). Having a logistics business presence close to many industrial MNEs in Singapore and other ASEAN countries is important to better serve clients and develop markets.

The Shangri-La hotel chain is a member of the Kuok Group through its Hong Kong (China) holding company (Kerry Holdings Limited) with 8.6 per cent equity held by Kuok Brothers Sdn Bhd (Malaysia – 8.6 per cent); and a Singapore holding company (Kuok Singapore Ltd) (6.1 per cent). The hotel chain has operations in most ASEAN countries because of investment opportunities and the growing tourism industry.

Recent intra-ASEAN investments

Notwithstanding its significant presence in ASEAN, the Kuok Group continues to expand its operations in the region with investments through various main subsidiaries and their subsidiaries (table 3.15). For instance, through Kerry Logistics, the Kuok Group developed the 213,000 square-foot Kerry Worldbridge Logistics Centre in the free trade zone in Phnom Penh, Cambodia, in early 2017.

Table 3.15. Kuok Group: Investments in ASEAN, 2014–2018 (Selected cases)

Date	Activity	ASEAN countries (selected location)
2018	Kerry Express Thailand entered into a strategic partnership with VGI Global Media Public Company in Thailand to be the only express logistics partner of VGI and use the Bangkok Mass Transit System ("BTS Skytrain") to extend its express delivery services.	Thailand
2018	Investment in Kerry/Logistics Infrastructures. Berth extension at the Kerry Siam Seaport in Thailand was completed in 2018 with expansion of Phase four to be completed later in 2018. Phase two of the Kerry Bangna Logistics Centre in Thailand was completed in 2018. Phase one of the inland ports in Mandalay, Myanmar was completed in the second quarter of 2018 and the inland port in Yangon is projected to be completed later in 2018.	Thailand and Myanmar
2018	Investment in flour mills: Wilmar commissioned its fourth flour mill in July 2017 and will start construction of the fifth mill in 2018.	Viet Nam
2017	Established Kerry Logistics facilities in Phnom Penh.	Cambodia
2017	Wilmar acquired a 50 per cent interest in Aalst Chocolate Pte. Ltd. in Singapore. The acquisition expanded Wilmar's services to bakery and confectionery manufacturers through supplying specialty fats used in the manufacturing of chocolates.	Singapore
2017	Wilmar Kuantan Edible Oils Sdn Bhd entered into an agreement with Cargill Palm Plantation Sdn. Bhd. for the purchase of Cargill's edible oil facilities in Kuantan, which includes a palm oil refinery and a neighboring storage facility.	Malaysia
2017	Wilmar spent nearly \$1 billion on capital expenditure for plantations development, property, plant and equipment in 2017. Major additions of property, plant and equipment during the year included refineries, grains and flour milling plants in Indonesia and Myanmar, as well as construction of new vessels.	Indonesia and Myanmar
2016	Wilmar formed a joint venture with Bunge Ltd and a local partner by acquiring 45 per cent equity stake in a soybean crushing plant in Viet Nam from Bunge Ltd.	Viet Nam
2014 up to present	Wilmar formed a joint venture with a local sugar producer in Myanmar, its first major foray into Myanmar's sugar market. The joint venture operates two sugar mills, a bio-ethanol plant and an organic compound fertilizer plant.	Myanmar

Sources: Kuok Group, annual reports of subsidiaries and their websites.

AEC

The Kuok Group welcomes ASEAN integration and the AEC, which will support further integration of the Group's business operations and its participation in value chains in different industries in the region. The rapid economic growth, the large regional market and an integrating region are important FDI determinants which will continue to play important roles in the Group's investment decision.

3.3.8. Top Frontier Investment Holdings Group (Philippines)

Top Frontier Investment Holdings (Philippines) owns 66 per cent of San Miguel Corp (SMC) and 100 per cent of Clariden Holdings, which has interests in mining exploration and development in the Philippines. SMC was established in 1890 as a single-product brewery and has evolved into one of the Philippines' largest and most diversified conglomerates. It has significant business operations in key industries, which include beverages, food, packaging, energy, fuel and oil, infrastructure, properties and investments in car distributorship and banking. The group owned more than 40 subsidiaries and \$28 billion in assets in 2017 with revenues that accounted for about 5.2 per cent of the Philippine's GDP in 2017. SMC's international operations contributed 26 per cent of the group's total revenues.²⁸

The SMC group has more than 100 major facilities (e.g. plant, production, milling, refining) in the Philippines, other ASEAN countries, China, Australia and New Zealand. Its operations in the Philippines had a direct workforce of more than 24,000 employees in 2017. The group's cassava assemblers programme today involves about 85,000 farmers in the Philippines.

Investment motivation

A key driver of SMC's internationalization is the group's strategic plan to grow and diversify into markets abroad (table 3.16). SMC's expansion into other ASEAN countries in the 1990s and 2000s was intended to boost growth, as it faced saturation in the Philippines.²⁹ The Asian financial crisis in 2007 and the group's strong cash holdings also encouraged the group to expand into neighbouring countries. In the 1990s, SMB International embarked on an aggressive internationalization strategy, with investments in other ASEAN countries. During that period, SMC established a presence in Indonesia, Thailand and Viet Nam. By 2012, the group also expanded its fuel and oil operations in Malaysia.

The group has been managing and contributing to the value chains in food business in Indonesia and Viet Nam and in fuel and oil and packaging operations in Malaysia. SMC's investments in Indonesia, Malaysia, Thailand and Viet Nam are generally motivated by market-seeking factors and strategic locational advantages. SMB also has a distribution agreement for the Cambodia market³⁰ and exports to more almost 50 other countries, with Singapore and Malaysia among its major markets. SMC's investment in the packaging business in ASEAN was motivated by market opportunities, and the opportunity to capture the benefits of value chain management through intra-group integrated business. The packaging facilities in Malaysia and Viet Nam also serve the packaging requirements of SMB operations in Indonesia, Thailand, Viet Nam and China.³¹ San Miguel Packaging Malaysia exports flexible packaging products to the parent company in the Philippines for the group's requirements.

Indonesia

San Miguel Food and Beverage entered the Indonesian market in 1995 through a joint venture with an Indonesian supermarket chain. PT San Miguel Pure Foods (Indonesia) was established to manufacture and distribute processed meats in the host country. The investment was made in order to tap into Indonesia's huge food market. In the early 1990s, PT San Miguel Yamamura

Table 3.16. Key features and operations of SMC's subsidiaries

Subsidiary	Industry	Total assets (2017)	Gross revenues (2017)	Manufacturing plant or operation in ASEAN	Publicly listed	Remarks
San Miguel Brewery	Beverage	\$780 million	\$2.2 billion	Facilities in Indonesia (1) Thailand (1) Viet Nam (1)	No (Subsidiaries in Hong Kong (China) and Indonesia are listed companies)	Has a portfolio of 10 popular beer brands that it exports to other ASEAN countries through SMB International. It has a production and marketing presence in Indonesia, Thailand and Viet Nam. Joint venture between SMC and Kirin Holdings of Japan.
Ginebra San Miguel	Beverage	\$267 million	\$415 million	Thailand (1) through a joint venture	Yes	Operates five bottling facilities, one distillery and one cassava starch milk plant in the Philippines and one distillery and bottling facility in Kanchanaburi, Thailand.
San Miguel Food and Beverage	Food	\$1.6 billion	\$2.3 billion	Indonesia (1) Viet Nam (1)	Yes	Operates with a vertically integrated meats business model. It has five main business segments: agro-industrial (feeds, poultry and fresh meats), flour milling (basic and customized flour), branded business (processed meats, dairy, oils and fats coffee and biscuits), food service (Great Food Solutions), and international operations (e.g. Indonesia and Viet Nam).
San Miguel Yamamura Packaging Group	Packaging	..	\$635 million	Indonesia (1) Malaysia (1) Viet Nam (1)	No	Provides total packaging solutions to support SMC business operations and major third-party customers globally. It produces a wide range of packaging products. Joint venture between SMC and Nihon Yamamura Glass (Japan).
SMC Global Power Holdings, Corp	Energy	\$7.0 billion	\$1.6 billion	Philippine focused	No	One of the largest power company in the Philippines, with locally focused operations and investments.
Petron Corp	Oil and fuel	\$6.7 billion	\$8.6 billion	Malaysia (1) Trading operation in Singapore (1)	Yes	A major oil refining and marketing company in the Philippines and Malaysia. It participates in the reseller (service station), industrial, lube and liquefied petroleum gas ("LPG") sectors with a total of about 3,000 service stations in the Philippines and Malaysia. Operation in ASEAN began in 2012 when Petron acquired ExxonMobil downstream subsidiaries, which include Petron Malaysia Refining & Marketing (formerly Esso Malaysia); Petron Fuel International (formerly ExxonMobil Malaysia); and Petron Oil (formerly ExxonMobil Borneo). Also owns Petron Port Dickson refinery in Malaysia. Petron Malaysia refining and marketing operates about 600 service stations.
San Miguel Holdings Corp (SMC Infrastructure)	Infrastructure	..	\$446 million	Philippine focused	No	Consists of investments in companies that hold long-term concessions in the infrastructure sector in the Philippines in road, airport and water projects. It operates various toll roads and is involved in ongoing projects such as Skyway Stage 3, Skyway Stage 4 and SLEX TH4.

Sources: Annual reports and websites of SMC and its main subsidiaries, Top Frontier 2016 Annual Report and website.

Utama Indoplas (Indonesia) was added to SMC's PET packaging business overseas. In 2015, San Miguel partnered with PT Indomaret to expand the distribution of processed meats from San Miguel Food and Beverage in Indonesia.

Thailand

SMC entered the Thai beer market through its acquisition of Thai Amarit Brewery for \$102 million in 2004. The acquisition was made so as to fast-track the company's entry into the fast-growing beer market in Thailand. Other reasons for the investment included the host country's competitive investment environment, tax incentives and proximity to other target markets such as Cambodia, the Lao People's Democratic Republic and Myanmar. In the same year, SMC also established a manufacturing plant at the Amata City (Rayong) Industrial Estate and started building plants in other ASEAN countries such as Malaysia and Viet Nam. The Thai operations, through San Miguel (Thailand), involved manufacturing and distribution of San Miguel beer products. In 2007, SMC contracted with the Thai Life Group of Companies for the operation of a distillery and bottling plant in Thailand for Ginebra San Miguel products.³²

Viet Nam

In 2003, SMC acquired TTC Vietnam Co Ltd (now known as San Miguel Pure Foods Vietnam), a hog farming and feed-milling facility in Bin Duong, for \$35.5 million. In 2006, SMC went into partnership with Hormel, selling that company a 49 per cent stake. In 2006, SMC acquired the food brand "Le Gourmet" from Hormel Netherlands BV in Viet Nam for \$2.1 million,³³ to expand the group's food business operations in that host country.

Malaysia

In 2011, SMC expanded its footprint into the regional oil industry by acquiring the downstream petroleum businesses of Exxon Mobil (United States) for about \$600 million. The acquisition strengthened SMC's oil refining operation, managed by Petron Corp, and gave the group access to a refinery in Port Dickson (Malaysia) and a network of 560 service stations in Malaysia.³⁴ In 2017, SMC added 40 more service stations.

Other strategic motives

In addition to its internationalization strategy through wholly or majority-owned subsidiaries and affiliates, SMC has strategic partnerships and has developed business networks with other international companies. Among them are Kirin Holdings (Japan) for beer,³⁵ Hormel Foods International Corp (United States) for processed meats, Nihon Yamamura Glass (Japan) for packaging products, Padma Fund LP (Cayman Islands) for toll roads, Super Coffee Corp (Singapore) for coffee and Indomaret for a distribution network in Indonesia. Through these partnerships and business networks, the San Miguel Group has strengthened its international business operations, especially in the ASEAN region.

AEC

In ASEAN, regional integration is increasingly being regarded as an important investment determinant for the San Miguel Group. For instance, it is encouraging San Miguel Food and Beverage to expand to Cambodia, Myanmar and Viet Nam. San Miguel Food and Beverage also plans to expand in Indonesia, where it already has operations through its subsidiary San Miguel PureFoods (Indonesia).³⁶ The San Miguel Group welcomes the formation of the AEC as it brings with it opportunities for the group to grow its presence in the region.

3.4.9. Ayala Group (Philippines)

Ayala Corp is one of the largest conglomerates in the Philippines, with business interests in real estate, banking, telecommunication, water, power, infrastructure, industrial technologies, health care and education. The group owned \$19 billion in assets and generated \$5 billion in revenues in 2016. It provided at least 125,000 jobs³⁷ in 2016, through some 200 domestic and international subsidiaries. The Group has four core business segments: Ayala Land (real estate), Bank of the Philippine Islands (banking and financial services), Globe Telecom (telecommunication), and Manila Water (water). The group started operation in 1851, with the establishment of El Banco Español Filipino, the precursor of the Bank of the Philippine Islands. In the 1990s, the group started to expand its presence in ASEAN and globally.

The Ayala Group owns Integrated Micro-electronics (IMI), the sixth largest automotive electronic manufacturing service in the world,³⁸ with revenue exceeding \$1 billion in 2017. Ayala is also a major player in the telecommunication industry through Globe Telecom, with which it has partnered – along with Singtel – since 1993 to expand the IT infrastructure and modernize its software in the Philippines. In response to the government's objective of developing more economic zones to attract FDI, Ayala Land has established many technology parks in the country, such as Laguna Technopark, UP Technohub and Cebu Asia IT Town Park.³⁹

The Ayala Group's ownership structure involves cross-equity ownerships between the main subsidiaries and sub-subsidiaries within and across business units. For example, Ayala Corp owns 100 per cent of AC Industrial Technology Holdings (formerly Ayala Automotive Holdings), the main subsidiary for its industrial technology businesses (electronics manufacturing services, vehicle retail and enabling technologies). AC Industrial Technology Holdings in turn owns 50 per cent of Ayala Hotels, of which the other 50 per cent is owned by Ayala Land (the group's main subsidiary for real estate-related businesses). Ayala Corp owns 47.2 per cent of Ayala Land.

Investment motivation

Most of the group's early businesses focused primarily on domestic markets; the group only started to expand abroad in the 1990s. Its internationalization strategy was for its main subsidiaries to establish a presence abroad – as a production base or provider of business services – or to operate either in sales and marketing or in investment holding. The group has a large regional footprint in ASEAN (table 3.17).

Table 3.17. Ayala Group's operations in ASEAN, 2018 (Selected cases)

Main subsidiary	Presence in ASEAN	Nature of presence
Ayala Land	Malaysia Singapore	Malaysia: Real estate and construction activities ^a Singapore: Marketing and sales
Manila Water	Indonesia Myanmar Singapore Thailand Viet Nam	Singapore: Investment holding and regional headquarters Indonesia, Myanmar, Thailand, Viet Nam: Water service provider through concession Viet Nam: Equity stakes in two bulk water supply companies and other water-related assets
Globe Telecom	Singapore	Provision of voice-over-internet-protocol services (through Globetel Singapore) Joint venture partner in the Bridge Alliance, under Singapore-registered Bridge Mobile, with seven other Asia-Pacific mobile operators to build regional mobile infrastructure and a common service platform to deliver regional mobile services to their respective subscribers
Integrated Micro-Electronics	Singapore	IMI-Singapore: investment and holding company Wholly owned subsidiary, Speedy-Tech Electronics and its subsidiaries (in Singapore; Hong Kong, China; and China) provision of electronic manufacturing services and power electronics solutions to original equipment manufacturers in the consumer electronics, computer peripherals and IT, industrial equipment, telecommunication and medical device industries.
AC Energy Holdings	Indonesia	Acquisition of Chevron's geothermal assets and operations in Indonesia. Development of power projects for the unserved demand in Indonesia's many small islands, through a partnership of AC Energy's Singapore-registered affiliate, AC Energy International Holdings, with UPC Renewables Asia Pacific Holdings and UPC Renewables Asia. ^b

Source: Ayala.

^a Through ALI's subsidiary, Regent Wise Investments Ltd, Ayala Land acquired about 33 per cent of MCT Bhd, a Malaysian development and construction company, in 2015. In January 2018, ALI announced that it is increasing its stake to more than 50 per cent, in line with its vision to be a major real estate player in Malaysia (Inquirer.net. "ALI gains 50.19% control of Malaysian property firm MCT". 3 January 2018. <http://business.inquirer.net/243460/ali-gains-50-19-control-malaysian-property-firm-mct>) and Ayala Corp, 2017 17Q Form submitted to the Securities and Exchange Commission, p.19, 9 May 2018.

^b In January 2017, AC Energy and UPC Renewables invested in the 75 MW Sidrap wind farm joint venture project in South Sulawesi. In July 2017, AC Energy, acting through its subsidiary AC Energy International Holdings, entered into a shareholders' agreement with UPC Renewables Asia Pacific Holdings and UPC Renewables Asia I to provide development funding to certain island renewable power projects in Indonesia. (Source: Ayala Corp 2017 17A Form, p. 79.)

The Ayala Group's overseas investments are primarily motivated by market opportunities. Ayala Land opened an offshore sales office in Singapore in 2013 to tap the growing demand for properties in the Philippines from Filipinos based in Singapore as well as Singaporeans looking to invest overseas in the Philippines. About 40 per cent of the company's sales in the Philippines in recent years were from Singapore.

In 2010, through Manila Water, one of its main subsidiaries, the Ayala Group established Manila Water Asia Pacific in Singapore. It operates as an investment holding company and works to win water services contracts in the region. Other main subsidiaries of Ayala Corp have also started establishing a footprint in Singapore (as a regional headquarters for investment holding purposes) and in Indonesia. For example, AC Energy Holdings entered the energy industry in Indonesia because of the large market opportunities in that host country.⁴⁰

Manila Water

Manila Water provides water and wastewater services in the Philippines. With experience gained at home and skills developed over time, it expanded its core business to neighbouring ASEAN countries and established a regional holding company in Singapore. Manila Water continues to explore and pursue new business opportunities in ASEAN through contractual arrangements (table 3.18). Since its inception in 1997, Manila Water has grown into a conglomerate in its own right, with a presence and operations in five other ASEAN countries. In 2016, the company had total assets of \$1.8 billion and generated revenues of \$373 million.

Table 3.18. Manila Water operations in ASEAN, 2016–2018

Main subsidiary	Sub-subsidiary in host country	Host country	Year begun	Nature of presence	Remarks
Manila Water South Asia Holdings	Saigon Water Infrastructure Corp (Saigon) (Viet Nam)	Singapore	2016	Holding company	Saigon Water is a Vietnamese holding company that builds water and wastewater treatment plants in addition to providing engineering, operations, and management services. Current investments include Tan Hiep 2 and Cu Chi Water.
	Cu Chi Water Supply Sewerage Co Ltd (Viet Nam)				
	Asia Water Network Solutions Joint Stock Co (Viet Nam)				
Thu Duc Holdings	Thu Duc Water Corp (Viet Nam)	Singapore	2016	Holding company	Thu Duc Water Corp supplies treated water to Saigon Water Corp.
Kenh Dong Water Holdings	Kenh Dong Water Supply Joint Stock Co (Viet Nam)	Singapore	2016	Holding company	Kenh Dong Water Supply Joint Stock Co supplies treated water to Saigon Water Corp.
PT Manila Water Indonesia	PT Sarana Tirta Ungaran	Indonesia	2018	Holding company	PT Sarana is a bulk water company that serves part of Central Java Province.
Manila Water	Eastern Water Resources Development and Management Pcl	Thailand	2018	..	..

Sources: Ayala, 2016 and 2017 17A Form and annual reports.

In 2017 and 2018, Ayala Corp further expanded the group's regional presence with Manila Water establishing a presence in Indonesia and Thailand, and with ventures in digital-based operations. PT Manila Water Indonesia acquired a 20 per cent stake in PT Sarana Tirta Ungaran, a bulk water company that serves part of Central Java Province. The acquisition was made to further strengthen the company's growth platform and to take advantage of investment opportunities in other ASEAN countries. Manila Water also signed an agreement in 2018 to acquire an 18.7 per cent stake in Eastern Water Resources Development and Management Pcl in Thailand. The acquisition is the company's first point of entry in Thailand and in the company's further expansion in ASEAN.

AEC

ASEAN's regional integration and the AEC are welcome developments for the Ayala Group. In the 2016 annual report of the Ayala Corp, the chairman stated:

“While our presence has traditionally been overweighted in the domestic market, we believe that the time is ripe for the Ayala Group to begin expanding overseas, particularly in the ASEAN region. ASEAN remains among the most dynamic growth regions in the world and has remained resilient even in the face of a global economic slowdown. With regional integration and greater interconnectivity among markets, as well as a certain alignment in cultures and demographics among member nations, we see tremendous strategic opportunities in ASEAN. Some of our businesses have already made inroads in ASEAN in recent years. Manila Water has invested in various water infrastructure projects in Viet Nam and is one of the largest foreign investor in the country’s water sector. Ayala Land has made a strategic acquisition in real estate company (MCT Bhd) in Malaysia, AC energy won the bidding for Chevron’s geothermal facility in Indonesia. Moreover, AC Industrials has identified ASEAN as a core market in most of its business lines. We continue to explore potential investments in the region and aim to generate 10 per cent of our equity earnings from our group’s various international investments by 2020. The management team understands that what is happening in ASEAN is of great interest and we do remain on the lookout for opportunities.”

3.4.10. JG Summit Group (Philippines)

JG Summit (Philippines) is a large conglomerate with business interests in food and beverage, real estate and hotels, airlines, banking and financial services, and petrochemicals. The group consists of 5 main subsidiaries in key businesses, 8 direct subsidiaries, which are supplementary businesses, and 38 sub-subsidiaries.⁴¹ In 2016 it had more than \$14 billion in assets and generated \$5 billion in revenue. The group’s five main subsidiaries are also holding companies in each of the major industries in which the group operates. They are Universal Robina Corp (URC) (food and beverage), CP Air Holdings operating Cebu Pacific (airline), Robinsons Land Corp (real estate, malls and hotels), Robinsons Bank (banking), as well as JG Summit Petro Chemical Corp and JG Summit Olefins Corp (petrochemicals).

JG Summit has been building its regional business in ASEAN since the 1980s. Two of its main subsidiaries, URC and Cebu Pacific, have a significant presence in other ASEAN countries. URC is a snack-food and beverage MNE and established its first ASEAN-based operations in Malaysia in the early 1980s. It has trading operations in all ASEAN countries and manufacturing plants in Indonesia, Malaysia, Myanmar, Philippines, Thailand and Viet Nam. In 2017 it generated \$3 billion in assets and \$2.5 billion in revenue. Some 64 per cent of URC’s total business operations and 17 per cent of its total sales are from ASEAN (excluding those in the Philippines). Cebu Pacific, based in the Philippines, is a low-budget airline serving domestic, regional and international routes. The airline has offices in Brunei Darussalam, Cambodia, Indonesia, Malaysia, Singapore, Thailand and Viet Nam. In 2016 it contributed \$2.0 billion in assets and \$1.2 billion in revenue to the group.

Aside from these subsidiaries, JG Summit also has minority equity stakes in other Philippines MNEs such as Philippine Long Distance Telephone (telecommunication and IT), Manila Electric

Co (power distribution) and Global Power Business Corp (power generation) and in Singapore-based United Industrial Corp/Singapore Land (property development). Some of these have investments in other ASEAN countries, indirectly linking JG Summit to them.

JG Summit has a 37 per cent stake in United Industrial Corp, a publicly listed company engaged in property development in Singapore. Through its subsidiary Meralco PowerGen it partnered with First Pacific (Hong Kong, China) to form FPM Power Holding, which in turn holds a 70 per cent stake in GMR Energy Singapore, the owner of an 800 MW natural gas power plant on Jurong Island, Singapore.⁴² These investments outside the group were selected on the basis of strategic considerations (e.g. return on investments), corporate value, growth opportunities and long-term growth potential. In 2011, the group acquired 8 per cent of Philippine Long Distance Telephone. In December 2013, JG Summit bought 27 per cent of Manila Electric from San Miguel Corp.

Universal Robina Corp

URC was established in 1966. It has 8 main subsidiaries and more than 10 sub-subsidiaries. The company employs 13,881 full-time employees, 31 per cent of them in its ASEAN businesses. It has 51 factories (manufacturing facilities) at home and abroad, of which 35 are in the Philippines, 9 in other ASEAN countries and 7 outside ASEAN.

URC's investments and operations in the ASEAN region have grown rapidly in the last decade. In 2008, its assets in other ASEAN countries represented only 19 per cent of the group's total. In 2017, its assets in ASEAN (excluding in the Philippines) had grown by 215 per cent to 27 per cent of the total. In ASEAN, most of its operations are in Thailand and Viet Nam. For instance, in 2014 URC's international operations accounted for 25 per cent of its overall business, of which URC Thailand and Viet Nam contributed 80 per cent.⁴³ URC is increasing its attention to other ASEAN countries especially in Indonesia and the CLM countries.

Investment motivation

URC's investment and expansion in ASEAN is driven by market factors, risk management and internationalization. Its investment in ASEAN is part of the company's vision to be one of the biggest players in snack foods and beverage in the region. The key reasons for its investments are market opportunities that hinge on strong growth among middle-class consumers, increasing GDP per capita and demand, shifting consumer preferences towards Western-style snacking and the need to diversify risk in sourcing.

The intra-ASEAN zero per cent tariff under the ASEAN Free Trade Agreement is an important factor encouraging investments in other ASEAN countries, as goods and production inputs can move freely and at competitive costs. The rapid economic growth of ASEAN countries is also a key driver for URC investing or increasing its presence in these economies. Large market potential, such as in Indonesia, and accelerated growth in frontier markets, such as Viet Nam, have also encouraged URC's investment and business expansion in these countries.

The availability of lower-cost, competitive-quality raw materials is an important motivation for regional sourcing in URC's investment in ASEAN. For example, Viet Nam is important to URC's ASEAN operations as that host country provides access to robusta coffee beans and green tea leaves.⁴⁴ URC has two coffee processing plants in the Philippines and a third in Viet Nam.⁴⁵

URC's packaging business in the Philippines supplies the packaging requirements to its subsidiaries in ASEAN. For example, packaging materials are supplied to its subsidiary in Thailand (for the packaging of Dewberry biscuits and snacks) and in Viet Nam (for the packaging of C2 tea drink and Great Taste coffee).

Supply chain network

URC's operations in ASEAN involve a network of internal supply chain arrangements. Between 10 and 15 per cent of URC's production volume is interlinked among affiliates. When there is a lack of capacity in certain countries, URC sources from affiliate companies in other ASEAN countries. For example, URC coffee and some green tea beverages produced in Viet Nam are sold in the Philippines; URC biscuit products sold in Indonesia, Malaysia, Myanmar and Viet Nam are produced by its subsidiaries in Thailand; URC biscuits produced in the Philippines are sold in Malaysia and Brunei Darussalam; URC candies produced in Thailand are sold in the Lao People's Democratic Republic; and some of URC's snacks are exported from its Philippines operation to subsidiaries operating in other ASEAN countries.⁴⁶

Strategic alliances and acquisitions

In 2014, Cebu Pacific (through Cebu Air, Inc) acquired Tigerair Philippines for an estimated \$15 million, as part of a strategic alliance with Tigerair (Singapore) for codeshare and interline arrangements. The acquisition contributed to a 40 per cent stake in Tigerair. The alliance gave both airlines an expanded network that covers more destinations in Asia and the Pacific.

Regional factors and investments

Regional integration in ASEAN is becoming an important aspect of the group's investment and expansion plans. URC plans to continue to build scale in ASEAN in line with its vision. A majority of URC's 2014–2017 capital expenditures were targeted at expansion of its domestic and regional capacities. In this period, 25 per cent of URC's total expenditures was for investments in ASEAN (table 3.19). In 2014, it invested \$30 million in a consumer food plant in Myanmar and in 2017, it made an investment in Sea Ltd (Singapore) – an internet platform focused on markets in Southeast Asia).

Table 3.19. URC: Investment in ASEAN, 2014–2017 (Selected cases)

Host country	Year	Industry or Products	Intrafirm activities	Remarks
Indonesia Malaysia Viet Nam	FY 2014	Beverage and snack foods	Construction of warehouse in Indonesia Expansion of chocolate segment in Malaysia Expansion of beverage and wafer lines in Viet Nam	Based on capex breakdown in SEC Report
Indonesia Thailand Viet Nam	FY 2015	Snack foods	Installation of Piattos line and warehouse construction in Indonesia Expansion of wafer baking line in Thailand Construction of manufacturing plant in central Viet Nam	..
Myanmar Thailand Viet Nam	FY 2016	Beverage and snack foods	Warehouse construction and biscuit line installation in Myanmar New warehouse, improvements in biscuit and wafer lines and packaging conveyor in Thailand Construction of warehouse and coffee manufacturing facilities in Viet Nam	Based on capex breakdown in SEC Report
Myanmar Thailand Viet Nam	FY 2017	Beverage and snack foods	Warehouse construction and biscuit line installation in Myanmar New warehouse and improvements of biscuit and wafer lines in Thailand Construction of glucose plant and coffee manufacturing facilities in Viet Nam	Based on breakdown in SEC Report

Source: URC.

AEC

URC welcomes the creation of the AEC, which it sees will help strengthen the group's regional footprint and offer an opportunity to bring its homegrown brands to an integrated ASEAN market. Investment in building its brand, developing distribution and supply chain networks, and building factories in ASEAN countries are important aspects of the group's internationalization strategy. The sharing of experience in operating in multiple countries has also helped the group grow and build on brands that suit local markets.

The group recognizes that although the AEC brings opportunities, there will also be challenges in the form of greater competition from other MNEs that are building and strengthening their regional presence. In this regard, the AEC is likely to intensify the expansion of operations in the region (e.g. adding production lines, rationalizing production bases and expanding distribution networks). URC believes that the company's operations are opportunities to export products to ASEAN countries as the middle-class population grows and the region integrates further. The AEC is expected to help URC optimize its regional presence including in procurement, manufacturing and product development.

3.4.11. Aboitiz Group (Philippines)

Aboitiz & Co is a large diversified business group in the Philippines. It has 117 subsidiaries involved in a wide range of businesses including construction and shipbuilding. Aboitiz Equity Ventures, the public holding company of the Aboitiz Group, has major investments in power, banking and financial services, food, infrastructure and land. In 2017, the group generated \$3 billion in revenue, owned \$10 billion in assets and employed more than 30,000 people.

Although most of its investments are in the Philippines, the group has increasingly been investing in other ASEAN countries in recent years. Of its 117 subsidiaries, 10 are in other ASEAN countries. Some 2 per cent of the group's sales are generated from other ASEAN countries through either exports or domestic market distribution involving its subsidiaries. The group has in recent years announced plans to further expand its business activities to other ASEAN countries for strategic, home- and host-country reasons, and because of emerging regional investment opportunities.

Aboitiz Equity Ventures has five strategic business units, or main subsidiaries, which are groups of companies themselves with their own subsidiaries and sub-subsidiaries (table 3.20). For example, Aboitiz Power Corp has more than 40 subsidiaries operating in power generation in the Philippines. It has established AboitizPower International in Singapore as a holding company to manage future investment expansion in the power business in other ASEAN countries. Pilmico International (Singapore) was established as a regional headquarters for food manufacturing and as a vehicle for the group to expand overseas.

Table 3.20. Main subsidiaries of Aboitiz

Main subsidiary	Headquarters	Industry	Corporate status	Subsidiaries in other ASEAN countries (Selected cases)
Aboitiz Power Corp	Philippines	Power generation and distribution	Publicly listed (Philippine Stock Exchange)	Aboitiz Power International (Singapore)
Union Bank	Philippines	Financial services (banking)	Publicly listed (Philippine Stock Exchange)	..
Pilmico Foods Corp	Philippines	Food manufacturing	Not listed	Pilmico Vietnam Feeds Joint Stock Co Pilmico Vietnam Trading Co Ltd Europe Nutrition Joint Stock Co (Eurofeed) Pilmico International Pte Ltd
AboitizLand	Philippines	Real estate	Not listed	..
Aboitiz InfraCapital, Inc	Philippines	Infrastructure	Not listed	..

Sources: Aboitiz Equity Ventures, 2017 17A Form submitted to the Securities and Exchange Commission and Philippine Stock Exchange.

Investment motivation

The group's overseas investment is primarily in ASEAN (table 3.21). A combination of strategic factors, investment opportunities and location attractions of host countries have encouraged the group to internationalize. The group invests abroad to exploit its portfolio of skill sets and business knowledge of different industries. The maturity of some businesses in the Philippines also encouraged the group to venture abroad, to grow and diversify revenues overseas. The rapid economic growth and characteristics of the fishery industry in Viet Nam further drove the group's investment in aqua feeds production in that country. Lower production costs and cheaper raw materials (e.g. in aqua feeds) further motivated investment, as did emerging investment opportunities in other businesses.

Table 3.21. Aboitiz Group: Subsidiaries in other ASEAN countries

Name	Host country	Activity	Relation in the group	Remarks	Reasons
Pilmico Vietnam Feeds Joint Stock Co	Viet Nam	Production of aqua feed	Sub-subsidiary	Acquired 70% of Vin Hoan Feed JSC in 2014 through Pilmico International (Singapore) and a further 15 per cent stake in 2017	With these strategic acquisitions, the group is exploring new markets in Indochina and increasing its capacity to be a more competitive feeds producer in ASEAN. Production also supplies the Philippines market through export to Pilmico Philippines and the Cambodia market.
Pilmico Vietnam Trading Co Ltd	Viet Nam	Importation and distribution of Pilmico products in Viet Nam	Sub-subsidiary	Acquired Pilmico Vietnam Trading Co through Pilmico International (Singapore) in 2016	..
Europe Nutrition Joint Stock Co (Eurofeed)	Viet Nam	Production of core feeds business	Sub-subsidiary	Acquired 70% of Europe Nutrition Joint Stock Co in 2017	..
Pilmico Food Corp	Indonesia	Build market	Representative office	Established in 2014	Instrumental in helping the Group to export flour (from its Philippines operations) to Indonesia, Malaysia, Myanmar, Thailand and Viet Nam.
Pilmico Food Corp	Viet Nam	Build market in Indochina	Representative office	Established in 2015	
Archipelago Insurance	Singapore	Captive insurance market	Subsidiary	Established in 2010	Insures only the risks of its parent and related companies.

Sources: Aboitiz & Co, 2017 17A Form, pp. 8-10 and interview with the chief financial officer of the company.

The group is actively looking for opportunities in power generation and distribution in several ASEAN countries. It has developed expertise in the power business and is ready to replicate its business model outside of the Philippines. In particular, the group has investment plans for power generation and distribution in Indonesia and Viet Nam. Indonesia is an important source of coal for the group's power plants in the Philippines (AboitizPower procures 100 per cent of its coal requirements from Indonesia). Through the Group's relationship with its Indonesian coal suppliers, it is pursuing possible partnerships with other key Indonesian players in the power industry. The group has established AboitizPower International in Singapore as a holding company for expansion of its power business abroad.

Archipelago Insurance, a wholly owned subsidiary of Aboitiz Equity Ventures, was incorporated in Singapore in 2010 as a general captive insurance company. The subsidiary is licensed to insure only the risks of its parent and related companies. Pilmico is replicating its Philippines feed-milling business in Viet Nam, to expand its operational capacities. It plans to further expand to other ASEAN countries when opportunities arise and through M&As, which will provide quick access to host country markets.

AEC

Aboitiz welcomes the AEC initiative, which could generate opportunities and challenges for SMEs and large companies. The group believes that the AEC would contribute to improving the investment environment in the region, thereby facilitating investment and creating opportunities in a rapidly integrating and sizeable regional market.

3.4.12. Singapore Telecommunications Group (Singapore)

Singapore Telecommunications (Singtel) Group is a leading communications group in Asia that provides a diverse range of services, which include fixed, mobile, data, internet, TV, ICT and digital solutions (table 3.22). It is a government-linked company and has more than 80 subsidiaries and sub-subsidiaries, 13 associates and 21 joint ventures. In 2017, the group generated \$12 billion in revenue, owned \$35 billion in assets and employed more than 25,000 people. About 47 per cent of its 2017 profit of \$2.8 billion was contributed by its regional associates (i.e. Telkomsel (Indonesia), Globe Telekom (Philippines), AIS (Thailand) and Airtel (India)).

Table 3.22. Singtel: Major subsidiaries and affiliates (Selected cases)

Core business group	Description	Major subsidiaries (affiliates/joint venture partners)
Group Consumer	Offers a range of digital services from music to over-the-top video to mobile payments, as well as voice, message, broadband and pay TV services	Singtel, Optus (Australia) Regional associates: Globe Telecom (Philippines), Telkomsel (Indonesia), AIS (Thailand), Airtel (India and Africa)
Group Enterprise	Delivers core enterprise ICT services, cloud, cybersecurity and smart city solutions focused on companies and governments	Singtel, Optus (Australia), NCS, Trustwave
Group Digital Life	Focuses on opportunities in digital marketing and data analytics, and over-the-top video, among others	Amobee, HOOQ, DataSpark, Innov8 ^a

Sources: Singtel, 2017 Annual Report and website.

^a Amobee is Singtel's digital marketing arm; HOOQ is a joint venture between Singtel, Sony Pictures and Warner Bros. providing over-the-top video services; DataSpark is Singtel's advanced analytics business; and Innov8 is Singtel's corporate venture arm focused on technology-related start-ups.

In ASEAN, Singtel has sizeable equity stakes in leading telecommunication service providers in Indonesia (Telkomsel), the Philippines (Globe Telecom) and Thailand (AIS) (table 3.23). It also has stakes in consortiums, such as the various iterations of the SEA-ME-WE underwater cable system linking the region with different parts of the world.

Telecommunication business

Telecommunication remains the bedrock of Singtel's business operations. In this industry, Singtel operates in different Asia countries, offering consumer packages from voice to data to meet growing data-centric demand.

Globe Telecom, Telkomsel, AIS and Airtel are Singtel's regional affiliates and are also leading telecommunication companies in their home countries in ASEAN. Most of them are publicly listed and have grown to become groups of companies themselves. Under Singtel's influence, Globe Telecom and Telkomsel started their transformation to become leading enablers and players in the digitalization era in 2012,⁴⁷ whereas AIS started its transformation in 2014.⁴⁸

Table 3.23. Singtel telecommunication operations and regional affiliates in ASEAN, 2017

Entity	Headquarters	Relationship	Stake (%)	Services	Market share (%)	2017 total revenues	No. of subsidiaries
Globe Telecom (listed)	Philippines	Affiliate	47 ^a	Mobile services, fixed and broadband services (this includes digital apps and contents)	52	\$2.6 billion	34
Telkomsel (unlisted)	Indonesia	Affiliate	35	Mobile services and digital content	47	\$6.7 billion	Not disclosed
AIS (listed)	Thailand	Affiliate ^b	23	Mobile, broadband services and digital content	45	\$4.0 billion	70

Sources: Singtel website and annual reports (various years).

^a Singtel has a 21.5% interest in Globe's voting shares.

^b AIS has a presence in Cambodia and Lao PDR through two subsidiaries, Lao Telecommunications Co Ltd, and Cambodian DTV Network Ltd.

Investment motivation

Singtel's investment motivations can be viewed in two phases: (i) its thrust to become a regional telecommunication player (1990s to early 2000s), and (ii) its objective to create new growth engines in the digital space (late 2010s to today). Singtel sought market opportunities in the region and beyond it, and pursued the acquisition of equity stakes in strategic telecommunication operators in host countries. Such acquisitions gave Singtel an immediate entry to new markets, including in Indonesia, the Philippines and Thailand.⁴⁹

Demand for new digital services in Asia continues to encourage the group to seek investment opportunities that can contribute to its expansion strategy and develop new revenue streams.⁵⁰ Investments over the last eight years centred on the Group's transformation into a digital-based communication organization. Investment choices were influenced by market potential and the right opportunity to acquire digital technology based companies and digital technology (hardware and software). Singtel has been acquiring businesses and assets that add value to its core businesses and build up its digital capabilities and capacities rapidly (table 3.24).

Table 3.24. Singtel investment and acquisitions (Selected cases)

Year	Company	Value	Equity stake (%)	Activity
2012	Amobee Inc (United States)	\$321 million	100	Global marketing technology company (3D technology, advertising, advertising platforms, big data, brand marketing, digital media, mobile, social media marketing, video).
2012	HungryGoWhere	\$9.4 million	100	Restaurant review portal in Singapore, with additional online presence in Hong Kong (China), Malaysia, Viet Nam, Cambodia and Australia. Singtel provides digital expertise on food and culinary establishments and serve over 70% of visitors who rely on mobile and online means for food and restaurant advice.
2013	Gradient X (United States)	About \$15 million	100	Mobile demand-side platform
2014	Adconion (United States)	\$235 million (acquired through Amobee)	100	Advertising (has 2,000 clients on its platform)
2014	Kontrera (United States)	\$150 million (through Amobee)	100	Advertising (pioneer in ad tech and analytics)
2015	Singtel New Data Centre (DC West Site) (opened in 2017), Singapore	\$285 million	N/A	A facility to meet the critical hosting needs of the financial services industry, government agencies, and cloud and internet service providers.
2017	Turn Inc (United States)	\$310 million (acquired through Amobee)	100	Offers a demand-side platform, a data management platform, and an analytics platform – automated systems that help advertisers plan, buy and measure their online ad campaigns.

Sources: Singtel website, 2017 Annual Report and news media.

AEC

As a regional telecommunication player, Singtel supports the formation of the AEC. A more integrated region will help increase business and investment efficiency, thereby strengthening regional connectivity. Singtel, as a significant enabler and player in the digital economy, is in a position to benefit from regional digital opportunities brought about by ASEAN's integration. It has already played a role in connecting countries in the region, and with the AEC that role is expected to be enhanced with further investment and regional expansion.

At the 32nd ASEAN Summit on 28 April 2018, Singtel demonstrated its initiative to connect mobile wallets across borders. The 10 ASEAN heads of state had a chance to experience how this payment service would work, ahead of the first-phase commercial launch between Singtel and regional associate AIS in Thailand in mid-2018. CEO Arthur Lang of Singtel's International Group said, "With the fragmented payments scene in Asia today, interoperability has never been more crucial. We are pleased to support ASEAN's vision of a more connected community and a single digital market with our cross-border interoperable mobile payment initiative." The Singtel Group recently announced it would connect such "wallets" across markets to offer seamless cross-border payments at physical merchants. This will empower the Group's more than 600 million mobile customers to pay securely and conveniently with their mobile wallets when they travel in the Asia-Pacific region, helping small merchants expand their reach to millions more in the process.⁵¹

3.4.13. Sembcorp Group (Singapore)

Sembcorp Industries is a leading utility, marine and urban development Group. It is headquartered in Singapore and is present in five continents. In ASEAN, it has a significant presence in Indonesia, Myanmar, the Philippines and Viet Nam. Sembcorp is 49.5 per cent owned by Temasek Holdings, which is wholly owned by the Singapore Ministry of Finance. It has over 200 subsidiaries, sub-subsidiaries and associates and over 7,000 employees. In 2017, it generated \$6.2 billion in revenues and owned \$17.2 billion in assets.

Sembcorp is a regional player in the industries it serves and has been present in ASEAN countries for more than 50 years starting from home-based Singapore (table 3.25). Several of its large-scale projects have involved partnership with host governments. For instance, Sembcorp partnered with the Government of Viet Nam on urban development projects such as integrated townships and industrial parks.⁵² Its marine business has operations in strategic countries including in Indonesia and countries outside ASEAN (e.g. the United States, the United Kingdom and Brazil).

Table 3.25. Sembcorp: Major business activities in ASEAN (Selected cases)

Business	Year begun	Activity	Key subsidiaries (country of incorporation)	Presence in ASEAN (excluding Singapore)
Utilities	1995	Provides solutions across the energy and utilities value chain as an integrated energy player, with a focus on the gas and power, renewables and environment, and merchant and retail sectors	• Sembcorp Utilities Pte Ltd (Singapore) • Sembcorp Cogen Pte Ltd (Singapore) • Sembcorp Gas Pte Ltd (Singapore) • Sembcorp Environment Pte Ltd (Singapore) • SembWaste Pte Ltd (Singapore) • Sembcorp Myingyan Power Company Limited (Myanmar)	Indonesia Myanmar Philippines Viet Nam
Marine	1962	Provides integrated solutions for offshore and marine industry, focusing on four key capabilities: rigs and floaters, repairs and upgrades, offshore platforms and specialized shipbuilding	• Sembcorp Marine Ltd (Singapore) • Jurong Shipyard Pte Ltd (Singapore) • Sembcorp Marine Offshore Platforms Pte Ltd (Singapore) • Sembcorp Marine Repairs & Upgrades Pte Ltd (Singapore)	Indonesia
Urban Development	1976	Owns, develops, markets and manages integrated urban development, comprising industrial parks and business, commercial and residential space in Asia	• Sembcorp Development Ltd (Singapore) • Vietnam Singapore Industrial Park Pte Ltd (Singapore) • Singapore Technologies Industrial Corp Ltd (Singapore)	Indonesia Viet Nam

Sources: Sembcorp Industries Annual Report 2017 and Sembcorp Marine Annual Report 2017

Sembcorp is focused on deepening its presence across certain developing and developed markets. Within ASEAN, Sembcorp operates gas-fired power plants in Singapore, Viet Nam and Myanmar as well as municipal water operations in Indonesia and the Philippines. In October 2018, it commenced its gas-fired Sembcorp Myingyan Independent Power Plant in Mandalay, Myanmar. Sembcorp's Urban Development business has established a business model in

transforming raw land into integrated developments encompassing industrial, commercial and residential spaces. From being a developer of industrial parks, the business is now well-positioned as a provider of integrated urban solutions, including sustainable integrated townships as well as high value-added business hubs and smart cities. The major subsidiaries of Sembcorp are leading regional players in their respective industries. Its Marine business is held through Sembcorp Marine, which is separately listed on the Singapore Exchange.⁵³

Investment motivation

Sembcorp's motivations to invest and expand in ASEAN are driven by its objectives to transform the company into a global and regional player with a strong presence in emerging and developing economies, which offer investment and market opportunities. With over 50 years in the business, the Marine business is a leader in its field. It has broadened its portfolio of non-drilling products and services, developing additional sustainable and innovative solutions to serve new customer segments. It also invests abroad to grow and participate in industrial development of host economies in energy, water and industrial estates development. An important driver of its internationalization is to better exploit its skill sets and proprietary advantages abroad.

A majority of the Group's investment expansions are focused on expansion of operations in new markets, and in exploiting new technologies and its capabilities (table 3.26). One of Sembcorp's earliest overseas investments in ASEAN was in Indonesia in 1990, where the company developed the Batamindo Industrial Park with local stakeholders (led by the Salim Group). Since then Sembcorp has invested in the development of various industrial estates in various ASEAN countries (*AIR 2017*).

Table 3.26. Sembcorp: Major investments and projects in ASEAN (Selected cases)

Project	Business activity	Country	Year / Commercial operation year	Ownership/Partner (% equity share)	Size (ha) or capacity
Batamindo Industrial Park	Urban development	Indonesia	1990	Gallant Venture Ltd is a joint venture between Sembcorp Development (10.4%) and other shareholders majority led by the Salim Group	320 ha
Bintan Industrial Park	Urban development	Indonesia	1994	Gallant Venture Ltd	270 ha
VSIP Binh Duong, VSIP Quang Ngai, VSIP Nghe An	Urban development	Viet Nam	1996 2013 2015	Vietnam Singapore Industrial Park Joint Venture Co Ltd is a joint venture between a Singapore Consortium (51%), which is majority led by Sembcorp Development, and Becamex IDC Corp (Viet Nam) (49%)	4,210 ha
Gas Sales Agreements	Utilities	Indonesia	2001 2011	Sembcorp Utilities (70%) Temasek Holdings (30%)	431 billion British thermal units per day of gas delivered to Singapore via a 640 km undersea pipeline
Phy My 3 Build-Operate-Transfer Power Plant	Utilities	Viet Nam	2004	Sembcorp Utilities (66.7%) and a consortium of Kyushu Electric Power and Nissho Iwai Corp (both Japan) (33.3%)	746 MW

/...

Table 3.26. Sembcorp: Major investments and projects in ASEAN (Selected cases) (Concluded)

Project	Business activity	Country	Year / Commercial operation year	Ownership/Partner (% equity share)	Size (ha) or capacity
VSIP Bac Ninh, VSIP Hai Phong, VSIP Hai Duong	Urban development	Viet Nam	2007 2010 2015	Vietnam Singapore Industrial Park and Township Development Joint Stock Company is a joint venture between Becamex IDC Corporation, Sembcorp Development and other shareholders	2,450 ha
Kendal Industrial Park	Urban development	Indonesia	2011	PT Jababeka (Indonesia) (51%) and Sembcorp Development (49%)	2,700 ha (Phase 1 is 860 ha)
Sembcorp Myingyan Independent Power Plant	Utilities	Myanmar	2018	Sembcorp Utilities (100%)	230 MW
The Habitat (Binh Duong)	Urban development	Viet Nam (part of VSIP Binh Duong)	2016	Developed by VSIP – Sembcorp Gateway Development Co Ltd	Residential project within VSIP Binh Duong

Sources: Sembcorp website and annual reports (various years), *AIR 2017* and news media.

^a Sembcorp holds 96.6 per cent of the consortium's 51 per cent share. Power capacity refers to total gross installed capacity.

AEC

Sembcorp has a significant presence in ASEAN through its main business operations. But it continues to look for investment and cooperation opportunities in utilities, marine and urban development in host countries in the region. Integration of ASEAN through the AEC will facilitate its plan to further engage with the region. Like many companies, Sembcorp is taking action to increase market share in ASEAN countries and their participation in regional value chains.⁵⁴

3.4.14. Siam Cement Group (Thailand)

Siam Cement Group (SCG) is a major Thai conglomerate with extensive operations in most ASEAN countries. The group has over 240 subsidiaries and sub-subsidiaries operating in three core businesses (cement and building materials, chemicals and packaging). In 2017, it generated \$13.3 billion in revenue (of which 14 per cent from other ASEAN countries and 10 per cent from exports to ASEAN), owned \$16.9 billion in assets (of which 24 per cent is based in other ASEAN countries)⁵⁵ and employed more than 53,600 people.

SCG has its origins in 1913, following a royal decree to produce cement for the country. It has evolved over the years and now has a significant presence in nearly all ASEAN countries (Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Viet Nam) (table 3.27). Several of its subsidiaries have become groups of companies themselves and are listed on the stock exchanges in Thailand or in Indonesia.

The structure of the Siam Cement Group is complex. Some of its subsidiaries have overlapping and complementary operations. For example, the SCG Cement-Building Materials Group has 17 subsidiaries and sub-subsidiaries in Indonesia. Some of the companies are producing the same products. There are also transactions between subsidiaries. For example, the Siam packaging

businesses (i.e. Siam Styrene Monomer Co Ltd and Siam Synthetic Latex Co Ltd) provide services to other subsidiaries in the SCG cement-building material and chemical businesses.⁵⁶

Table 3.27. SGC subsidiaries and location in ASEAN, 2017 (Selected cases)

Core business	Revenues (2017)	Assets (2017)	Number of subsidiaries	Number of subsidiaries in ASEAN (excluding Thailand)	Presence in ASEAN and number of subsidiaries
SCG Cement-Building Materials	\$5 billion	\$6.2 billion	131	70	Cambodia (7) Indonesia (17) Lao PDR (4) Malaysia (1) Myanmar (6) Philippines (6) Singapore (2) Viet Nam (27)
SCG Chemical	\$6 billion	\$5.7 billion	42	10	Cambodia (1) Indonesia (1) Myanmar (1) Singapore (3) Viet Nam (4)
SCG Packaging	\$2 billion	\$2.4 billion	44	12	Indonesia (3) Philippines (2) Singapore (1) Viet Nam (6)

Sources: SCG website and 2017 Annual Report.

Note: SCG also has subsidiaries outside the ASEAN region (e.g. China).

Investment motivation

SCG aspires to be a leading regional player in the cement and building materials industry in ASEAN. This aspiration has been a major factor driving the group to venture abroad, mainly in neighbouring countries (table 3.28). Steady economic growth, strong construction industry and investment opportunities in other ASEAN countries encouraged the group to invest in them.

Table 3.28. SCG major investments and expansions in ASEAN, 2012–2017 (Selected cases)

Year	Subsidiary	Activity	Investment location
2012	SCG Building Materials	Increased interest (from 46% to 83%) in Mariwasa-Siam Ceramics Inc, a manufacturer and distributor of ceramic tiles in the Philippines	Philippines
2013, 2016	SC Cement-Building Materials (through SCG)	Acquired 85% interest in Prime Group for \$240 million, a local building material producer, and the remaining 15% interest in 2016	Viet Nam
2014	SC Packaging	Acquired a 90% interest in PT Indoris Printingdo (Indonesia) to develop HVA Inc. products	Indonesia
2014	SCG Cement-Building Materials	Greenfield investment to build a cement plant	Lao PDR
2017	SC Chemicals (through subsidiary Vina SCG Chemicals)	Increased stakes in Long Son Petrochemical Co Ltd, the first petrochemical complex in Viet Nam (from 46% to 71% for \$36.1 million) Signed an agreement in 2018 (through Vina SCG Chemicals) with Viet Nam National Oil and Gas Group (PetroVietnam) to buy the latter's equity stake (29%) for \$90 million	Viet Nam
2017	SC Packaging (through subsidiary Thai Containers Group)	Acquired an 80% stake in PT Indocorr Packaging Cikarang, a producer of corrugated containers	Indonesia
2017	SC Cement – Building Materials through subsidiary Siam Global House PCL	Entered into a joint venture with local investors to establish Global House (Cambodia) Co Ltd	Cambodia
2017	SC Cement-Building Materials	Acquired Vietnam Construction Materials JSC, an integrated cement operator, for \$440 million (including debt and additional capital improvement requirement) investment to the required assets)	Viet Nam

Sources: SCG website, annual reports, industry and news media.

AEC

SCG recognizes that the integration of the ASEAN economies under the AEC framework will contribute significantly towards the economic development and competitiveness of the region. To this end, SCG is building its trade and investment network and strong presence in the region to be able to benefit from the opportunities of regional integration and to rise to the challenges brought by the AEC. SCG already has more than 90 subsidiaries spread out in nearly all ASEAN countries. These subsidiaries operate in the three core businesses of the Group. Notwithstanding this strong regional presence, SCG continues to look for opportunities for further expansion in ASEAN. For example, in 2017, the Group made four major investments in the region (two in Viet Nam, one each in Indonesia and Cambodia). In particular, the Group increased its stake in a major petrochemical complex in Viet Nam, in view of the strategic nature of the business.

3.4.15. Charoen Phokpand Group (Thailand)

The Charoen Phokpand Group is a family-owned conglomerate with 13 business groups in eight business lines operating in at least 20 countries, including most ASEAN Member States. The Group has more than 200 subsidiaries and sub-subsidiaries, and employs more than 300,000 people. It has business linkages with more than 31,000 smallholder farms and 20,630 SMEs.⁵⁷

The Group generated \$25.6 billion in revenue in 2016. About 18 per cent of its subsidiaries operate in ASEAN countries (excluding Thailand). CP Foods Public Co, its biggest subsidiary, has a strong foothold in ASEAN and contributed 50 per cent to the Group's 2016 revenues.⁵⁸ Its main subsidiaries (Charoen Pokphand Foods Pcl, CP All Pcl and True Corp Pcl) are major listed companies in Thailand.

The Group operates through 13 business groups in eight business lines (i.e. agro-industry and food, seeds, retail and distribution, media and telecommunications, e-commerce and digital, property development, automotive and industrial products, pharmaceuticals, finance and investment). Agro-industry and food, retail and distribution, and telecommunication are the business groups with the largest number of subsidiaries and extensive regional reach. For example, the agro-industry and food business line has six business groups. Each business group has at least two major subsidiaries, which are also groups of companies themselves. The Thai-listed Charoen Pokphand Foods Pcl (CPF) is a specific example. It is the main agro-industry subsidiary, with sub-subsidiaries in Thailand and other ASEAN countries. Some of CPF's sub-subsidiaries also have subsidiaries. An example is CP Foods (Malaysia) Sdn Bhd, which has six subsidiaries. The Group's main subsidiary in media and telecommunication, publicly listed True Corp Pcl, has 6 sub-subsidiaries and one of its sub-subsidiaries, True Visions Group Co Ltd, has 13 subsidiaries.

The complexity of the Group's structure is also reflected through cross-shareholdings. An example is CPF. It acquired from its parent company CP Group Co Ltd a 74.2 per cent equity stake in affiliate C.P. Pokphand Co Ltd, listed in Hong Kong (China). The deal was executed with a share swap and cash.⁵⁹ Another example is CPF's indirect ownership of CP All Pcl, the Group's retail and distribution business. Its ownership ensures a distribution network for its products (processed meat and food).

Investment motivation

The Group's investments and expansions in ASEAN are influenced by various factors depending on the business of its subsidiaries. In general, they include (i) market opportunities; (ii) locational advantages such as local supply sources, available low-cost manpower and access to land; and (iii) value added contribution to the Group.

Agro-industry and food business group

CPF has production operations in Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia and Viet Nam (table 3.29), countries with market opportunities, good local labour supply, raw materials and high development potential in terms of both farming standards and commercial farming efficiency. CPF's businesses in these countries are vertically integrated involving (i) feed; (ii) breeding and farming; (iii) primary processed meat; (iv) value added food products, such as processed semi-cooked and cooked meat, and ready-to-eat products; and (v) distribution. In addition, CPF operations require access to large tracts of land suitable to accommodate farming and breeding, and production facilities for meat and food processing.

Table 3.29. CPF PCL business operations in ASEAN countries (Excluding in Thailand)

Host country	Business operations				
	Feed	Swine farming	Poultry farming	Shrimp farming	Food production
Cambodia	X	X	X		X
Indonesia ^a	X		X		X
Lao PDR	X	X	X		X
Malaysia	X	X		X	X
Viet Nam	X	X	X	X	X

Sources: CPF PCL, 2017 Annual Report.

^a The CP Group's operation in Indonesia, PT Charoen Pokphand Tbk, is a separate entity that is not part of the CPF PCL. The Indonesian operation is a direct subsidiary of the CP Group similar to CPF PCL. (CP Group website and CPF PCL 2017 Annual Report do not include PT Charoen Pokphand Tbk as a subsidiary).

Retail and distribution

The Group's retail and distribution business in other ASEAN countries is largely driven by growing local consumer markets, the opportunity to set up operations and potential as a distribution base (strategic location). CP All Pcl has expanded regionally through its subsidiaries, Makro and Siam Food Services (table 3.30).

Table 3.30. CP All: Regional presence (Selected cases)

Host country	Mode of entry/date	Activity
Cambodia	Establishment of a joint venture (worth an estimated \$2 million) for Makro Cambodia Ltd, with Makro owning 70% equity; first Makro store opened in 2017 Establishment of Indoguna (Cambodia) Co Ltd (2016)	Cash-and-carry trade centres Food services businesses and related businesses in Cambodia
Myanmar	Establishment of ARO Co Ltd (January 2015)	Marketing and consulting services in Myanmar
Singapore	Acquisition of Indoguna (Singapore) through Makro Subsidiary Siam Food Services (2016)	Food solutions provider, sourcing and providing premium food products Helps in distribution of CP Group's branded produced food to outlets and supermarkets in Singapore
Viet Nam	Establishment of Vina Siam Food Service (2012), now renamed Indoguna Vina Food Service Co Ltd (July 2017)	Import and distribution of temperature-controlled, frozen, high-quality food products from Thailand and overseas with delivery service in Viet Nam

Sources: CP All annual reports and website, Siam Makro annual reports (various years) and news media.

Media and telecommunication

Although True Corp Pcl and its subsidiaries are domestically focused, its telecommunication services cover Cambodia, the Lao People's Democratic Republic and Myanmar. True Group's revenue from its international gateway business has continued to grow, from both existing (i.e. local and CLM internet service providers, local and multinational corporations, and international telecommunication operators) and new customers. In alignment with the Digital Thailand national policy, True helps Thailand connect with neighbouring countries (Cambodia, the Lao People's Democratic Republic, Malaysia and Myanmar) through its telecommunication network and infrastructure.⁶⁰

AEC

The Group sees ASEAN's integration as providing an improving investment environment and market opportunities. The CP Group and other Thai business groups share the view that in order to meet their internationalization ambitions, they need to venture overseas to take advantage of the growth opportunities that the AEC offers.⁶¹ Despite already having a strong regional footprint, the Group welcomes the AEC and plans to continue to expand its operations in the region including in new geographical and business areas (e.g. digital businesses).

3.5. CONCLUSION

Business groups and ASEAN MNEs are important sources of investment for the region. They play an important role in connecting the region through their regional investments, business expansion, subsidiary networks, production linkages, sourcing activities, infrastructure development and participation in regional value chains. Furthermore, their regional expansion plays an important role in contributing to the rise in intra-ASEAN investments.

Many of the 100 largest ASEAN MNEs and business groups continue to expand their footprint regionally with the establishment of more subsidiaries in ASEAN. Their regional expansion is due to their strong assets, improving cash holdings and drive to internationalize to expand markets, and the influence of regional integration.

ASEAN business groups have complex structures. In some cases, they involve a few hundred subsidiaries and sub-subsidiaries operating in multiple layers. This complexity is further increased by the cross-holding of equity shares. The ability to use an integrated business strategy is a key feature of business groups and conglomerates, which is driven by ownership of a portfolio of skill sets, diversified business interests and ability to control, internalize and maximize the benefits of value chains within the group. This strategy has led these large companies to expand regionally, which is made easier with further regional integration providing them with further opportunities to increase their use of an integrated business operations model.

Because of their widely diversified businesses, many business groups in the region operate in a number of value chains. Their FDI motives cover a variety of reasons, from market-seeking to efficiency-seeking, resource-seeking and strategic-asset-seeking, all of which can be found in a business group or an MNE conglomerate that has extensive industry coverage and a large regional footprint.

The business groups reviewed in this report welcome ASEAN's integration and AEC, which will increase the competitiveness and attractiveness of the region for investments. Despite already having a significant regional presence, they expect AEC to facilitate more investments with opportunities for further expansion of their business activities, integrated business and participation in regional value chains. Some indicated that the AEC will encourage them to engage further in the region (e.g. Ayala, San Miguel, JG Summit, Triputra, Sinar Mas, Siam Cement, Charoen Pokphand, CIMB, Sembcorp).

NOTES

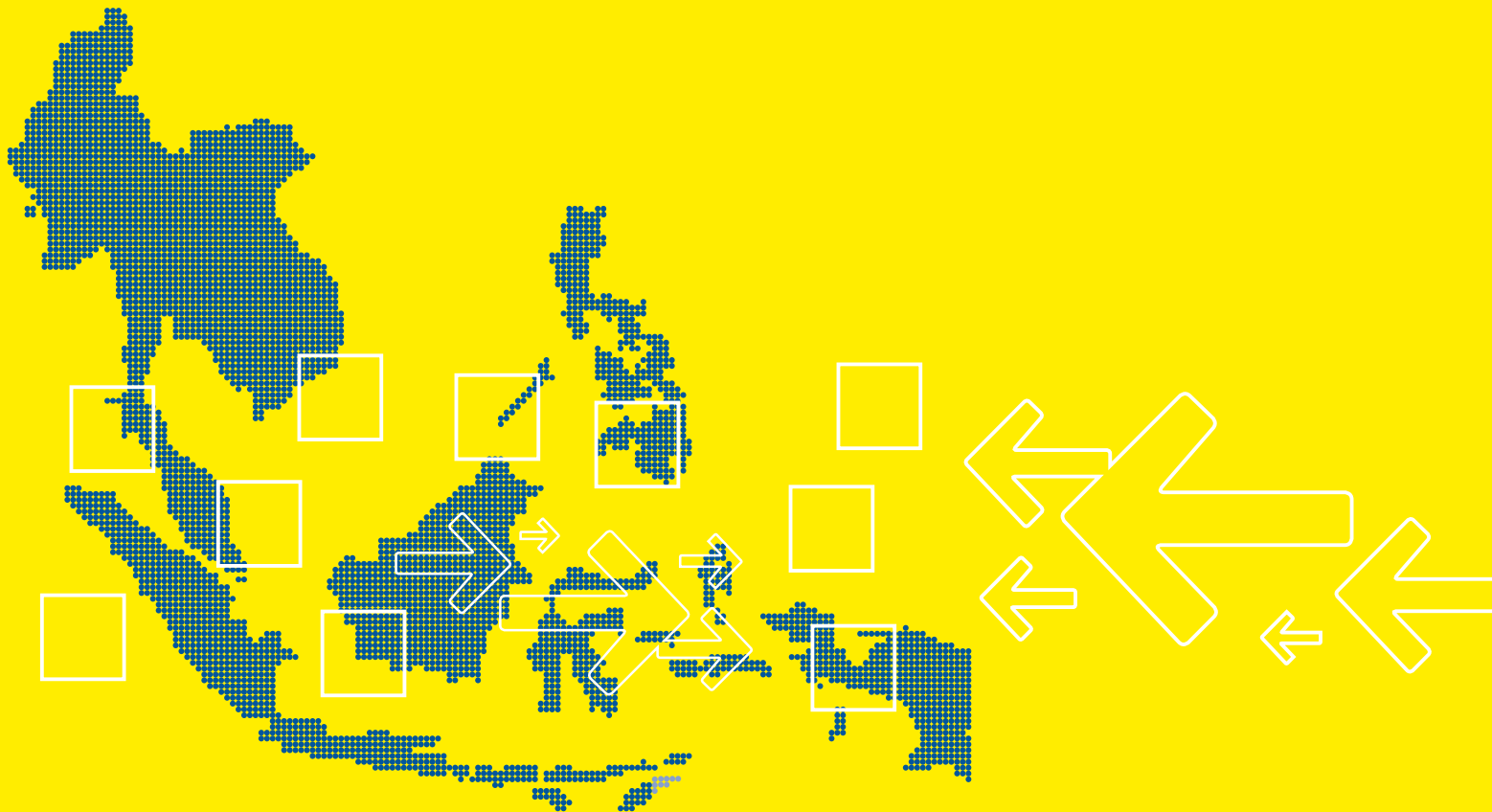
- ¹ Based on Bloomberg's database and ranked by assets.
- ² SM Investment Corporation (Philippines) does not have investment in ASEAN but has a presence in China to exploit its business experience developed at home.
- ³ Large ASEAN companies that do not have subsidiaries or offices in other ASEAN countries are excluded from the top 100 ASEAN MNEs list.
- ⁴ Lippo Group Expands Health Care Business in Singapore. 16 February 2017. Jakarta Globe (<http://jakartaglobe.id/business/lippo-group-expands-health-care-business-in-singapore/>)
- ⁵ Based on Golden Agri-business Investors Relations Department's response to *AIR 2018* Questionnaire.
- ⁶ Bridge Alliance's membership comprises leading mobile operators from 34 countries in the Asia Pacific, Middle East and Africa, along with its strategic partners in Europe and the Americas, and has a combined customer base of more than 750 million.
- ⁷ *The Business Times*, "Singtel to launch mobile wallet tie-up with regional associates, starting in Thailand", 20 March 2018 (<https://www.businesstimes.com.sg/companies-markets/singtel-to-launch-mobile-wallet-tie-up-with-regional-associates-starting-in>). AIS joins in the first half of 2018 while Globe Telecom, Telkomsel and Airtel will be on board in the second half of 2018, pending regulatory approval.
- ⁸ *Bloomberg*, "Indonesian billionaire Riady wants to rebuild banking empire online", 6 October 2016 (<https://www.bloomberg.com/news/articles/2016-10-06/lippo-billionaire-riady-invokes-taoism-in-digital-banking-foray>) and (<https://www.theedgesingapore.com/article/lippo-billionaire-riady-invokes-taoism-digital-banking-foray>).
- ⁹ *Financial Times*, "Mochtar Riady, chairman, Lippo Group", 28 February 2016 (<https://www.ft.com/content/2e63aaca-ca6a-11e5-be0b-b7ece4e953a0>).
- ¹⁰ *Jakarta Globe*, "ASEAN should tackle inequality, increase role of private sector, 26 October 2016 (<https://jakartaglobe.id/business/asean-tackle-inequality-increase-role-private-sector-james-riady/>)
- ¹¹ 2017 First Pacific Annual Report, page 4.
- ¹² Two Rivers Pacific Holdings Corporation ("Two Rivers"), a Philippine affiliate of First Pacific, holds an additional 15.0% economic interest in Philex.
- ¹³ Includes a 7.6% effective economic interest in FPM Power held by First Pacific through its indirect interests in Manila Electric Company ("Meralco").
- ¹⁴ Includes a 9.4% effective economic interest in FP Natural Resources held by First Pacific through its indirect interests in Indofood Agri Resources Ltd. FP Natural Resources holds 32.7% in Roxas Holdings Inc (RHI), and its Philippine affiliate First Agri Holdings Corporation holds an additional 30.2% economic interest in RHI.
- ¹⁵ Private sector participation in infrastructure and development projects has been actively encouraged by the Philippine Government since 1990 with the passage of Republic Act No. 6957 otherwise referred to as the Build-Operate-Transfer or «BOT Law». (Source:<http://www.mondaq.com/x/9061/Investment+Strategy/Private+Sector+Participation+In+Infrastructure+And+Development+Projects+In+The+Philippines>)
- ¹⁶ *Jakarta Post*, "Indofood hopes to tap into wider ASEAN market", 17 May 2014 (<http://www.thejakartapost.com/news/2014/05/17/indofood-hopes-tap-wider-asean-market.html>)
- ¹⁷ Based on questionnaire response from Golden Agri-Resources Investors Relations Office.
- ¹⁸ *Jakarta Globe*, "Adaro shareholdings create holding company", 23 July 2009 (<http://jakartaglobe.id/archive/big-adaro-shareholders-create-holding-Co/-23>).
- ¹⁹ PT Adaro Energy Tbk, 2017 Annual Report.
- ²⁰ Current and non-current assets, exchange rate used as at 31 December 2017 (Source: Audited Financial Statements 2017).

- ²¹ Axiata, 2017 Annual Report, p. 54.
- ²² Axiata, 2017 Annual Report, p. 15.
- ²³ PublicInvestResearch (KLSE), “Axiata Acquiring Tower in Myanmar”, 5 October 2015 (<https://klse.i3investor.com/blogs/PublicInvest/83840.jsp>).
- ²⁴ Founded in 2011, BIMA targets underserved families in emerging markets (<https://www.digitalnewsasia.com/mobility/axiate-digital-invests-us168-mil-swedish-insurtech-bima>).
- ²⁵ Digital News Asia, “Axiata Digital invests \$16.8 million into Swedish insurtech”, BIMA, 17 April 2017 (<https://www.digitalnewsasia.com/mobility/axiate-digital-invests-us168-mil-swedish-insurtech-bima>).
- ²⁶ At the end of 2016, approximately 3 million customers of three of Axiata’s operating companies were covered by mobile insurance policies.
- ²⁷ Excerpt from an essay written by Datuk Seri Nazir Razak, Chairman of the CIMB Group, featured in *ASEAN Future Forward: Anticipating The Next 50 Years*, published and launched by the Institute of Strategic and International Studies Malaysia on 28 August 2017.
- ²⁸ SMC, 2017 17A Form submitted to the Philippine Stock Exchange, p. 15.
- ²⁹ Philstar Global, “SMC buys Thai Brewery” (<https://www.philstar.com/business/2004/04/11/245694/smc-buys-thai-brewer146s-assets-102m#SMQMj4KkggkF0uwp.99>).
- ³⁰ San Miguel prospectus filed with the Securities and Exchange Commission of the Philippines, 14 February 2017, p. 62.
- ³¹ Top Frontier, 2013, 2014, 2015, 2016, Form 17A submitted to the Philippine Stock Exchange.
- ³² GMA News Online, “San Miguel may expand liquor units”, 30 May 2008 (<http://www.gmanetwork.com/news/money/content/98205/san-miguel-may-expand-liquor-units/story>).
- ³³ TMC News.com, “San Miguel’s Vietnam Unit Delivers”. 04 September 2007 (<https://www.tmcnet.com/usubmit/2007/09/04/2911101.htm>).
- ³⁴ Inquirer.Net, “SMC buys Exxon’s Malaysia units”, 17 August 2011 (<http://business.inquirer.net/13493/smc-buys-exxon%E2%80%99s-malaysia-units>).
- ³⁵ ABS-CBN News, “Kirin buys 43.25% of San Miguel Brewery for PHP 59B”, 15 April 2009 (<http://news.abs-cbn.com/business/02/20/09/kirin-buy-san-miguel-stake-1-b-report>).
- ³⁶ Inquirer.Net, “Purefoods seek to expand footprint in Asia”, 12 May 2004 (<http://business.inquirer.net/170219/purefoods-seeks-to-expand-footprint-in-asia>).
- ³⁷ This figure does not include employment and local business linkage effects generated by some of its other local subsidiaries.
- ³⁸ Based on 2015 automotive EMS revenues per electronics, from market research firm New Venture Research (<https://www.global-imi.com/news/imi-6th-largest-automotive-ems-provider-world>).
- ³⁹ Ayala Land, 2016 17A Form, p. 23.
- ⁴⁰ Business World Online, “AC Energy bullish on Indonesia”, 22 May 2017 (<http://www.bworldonline.com/content.php?section=Corporate&title=ac-energy-bullish-on-indonesia&id=145504>).
- ⁴¹ The number of sub-subsidiaries does not include *their* subsidiaries.
- ⁴² Business Mirror, “Meralco PowerGen Corp to spend \$1.2 billion for three power projects”, 28 July 2015 (<https://businessmirror.com.ph/meralco-powergen-corp-to-spend-1-2-billion-for-three-power-projects/>).
- ⁴³ Business.Inquirer.Net, “URC investing 30M in Myanmar factory”, 13 May 2014 (<http://business.inquirer.net/170336/urc-investing-30m-in-myanmar-factory#ixzz5BnvQuCzE>).
- ⁴⁴ URC, 2016 Annual Report, p. 24.

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- ⁴⁵ Business Inquirer.Net, "Top Filipino firms building ASEAN empires", 23 December 2015 (<http://business.inquirer.net/204522/top-filipino-firms-building-asean-empires>).
- ⁴⁶ Business Inquirer.Net. "Top Filipino firms building ASEAN empires", 23 December 2015 (<http://business.inquirer.net/204522/top-filipino-firms-building-asean-empires>).
- ⁴⁷ Telkomsel, 2012 Annual Report, pp. 1-3 and 54-56; and May 2018 Interview with Globe Telecom's Investor Relations and Corporate Affairs Offices.
- ⁴⁸ Telecomasia.net, "AIS unveils digital transformation plan", 6 November 2014 (<https://www.telecomasia.net/content/ais-unveils-digital-transformation-plan>).
- ⁴⁹ John Ure, editor, "Telecommunications Development in Asia: Country Studies (Singapore)", p. 242, Hongkong University Press, 2008.
- ⁵⁰ Singtel, 2017 Annual Report, p. 27.
- ⁵¹ "Connecting ASEAN: Leaders get a sneak preview of Singtel Group's cross-border mobile payments service", media release, 28 April 2018 (<https://www.singtel.com/about-Us/news-releases/conecting-asean-leaders-get-a-sneak-preview-of-singtel-group-s-cros-border-mo>).
- ⁵² "Since 1996, Sembcorp has partnered with the Government of Viet Nam to develop integrated townships and industrial parks in the country that offer work-live-play environments. The seven VSIPs in different parts of the country have helped attract many foreign investments and factories.
- ⁵³ Sembcorp Marine, 2017 Annual Report, pp. 274-276.
- ⁵⁴ Boston Consulting Group, "Winning in ASEAN: How Companies are Preparing for Economic Integration", October 2014 (http://www.iberglobal.com/files/Winning_in_ASEAN_bcg.pdf).
- ⁵⁵ SCG, 2017 Annual Report, p. 7.
- ⁵⁶ SCG, 2017 Annual Report, p. 130.
- ⁵⁷ Charoen Pokphand Group, 2016 Sustainability Report.
- ⁵⁸ Charoen Pokphand Foods Pcl, 2016 Annual Report, p. 11.
- ⁵⁹ Reuters, "Charoen to acquire \$2 billion stake in CP Pokphand", 27 November 2011 (<https://www.reuters.com/article/us-charoen-cpp/charoen-to-acquire-2-billion-stake-in-cp-pokphand-idUSTRE7AQ01U20111127>); Phillip Securities Research, "Regional Market Focus", 28 November 2011, p. 4 (http://research.cyberquote.com.hk/page/htm/kc/share_companyrpt/support/RMF%2020111128.pdf).
- ⁶⁰ True Corp Pcl, 2017 Annual Report, p. 22.
- ⁶¹ The Nation, "Thailand moves full steam towards regional integration", 24 December 2015 (<http://www.nationmultimedia.com/opinion/Thailand-moves-full-steam-towards-regional-integra-30275547.html>).

PART TWO

INVESTMENT AND PLAYERS IN THE DIGITAL ECONOMY



CHAPTER 4

Investment in the Digital Economy

4.1. INTRODUCTION

The digital revolution has significantly changed the industrial landscape and how business is conducted around the world. It has transformed the nature of manufacturing and services, as well as marketing, advertising and the distribution of products and services to markets, including retailing. Continuous digital innovation in areas such as robotics, artificial intelligence, data analytics, cloud computing, fintech and e-commerce, coupled with the development of smart equipment and devices, promises to accelerate this transformation going forward. Understanding, adapting to and embracing digital opportunities is necessary to be competitive in the digital age.

ASEAN's digital economy has been growing rapidly, driven by the region's rapidly expanding digital networks and growing numbers of mobile phone and Internet users, as well as by digital businesses. ASEAN Member States continue to improve their digital infrastructure – the foundation for downstream digital value chains – thanks to private investment, both local and foreign. Regional cooperation, including a regional agreement on e-commerce to be signed later in 2018, is also enhancing the digital investment environment. Different categories of players, from digital firms and traditional companies to enablers such as venture capital funds, are contributing to the development of ASEAN's digital economy. The digital potential of the region is attracting increasing interest from businesses and governments.

The purpose of this chapter is to examine the key features in the digital economy in ASEAN, including its architecture, as well as investment trends and major players. The importance of the digital economy to micro, small and medium-sized enterprises (MSMEs) is also addressed.

4.2. KEY FEATURES OF THE DIGITAL ECONOMY IN ASEAN

ASEAN is one of the fastest-growing regions in terms of Internet usage and has the third largest number of Internet users in the world after China and India. The region's active participation in digital development and its promotion of investment and infrastructure development are major drivers of this growth. In 2017, the Internet economy was estimated to be worth \$50 billion, or 2 per cent of the region's GDP. At the current growth rate of 27 per cent,¹ it is expected to be worth \$200 billion – 6 per cent of the region's GDP – by 2025. Fulfilling this potential, however, will require the right policy and regulatory framework to encourage further participation and investment by the private sector, as well as to address key challenges of growth (chapter 5).

The digital economy is contributing to greater connectivity both within the region and with the rest of the world through digital infrastructure links (e.g. undersea fibre cables, telecommunication networks), business networks, regionalization of digital start-ups, operations of foreign digital MNEs, and cross-border e-commerce activities (box 4.1). Such connectivity is strengthening ASEAN's integration and providing opportunities to digital firms to benefit from networking effects.

Box 4.1. Definitions and terminology

The digital economy can be defined as the application of Internet-enabled technologies to the production and trade of goods and services. It is built on information and communication technology (ICT) infrastructure, which provides Internet access for users and enterprises. Digital firms, including online retailers, media and other services providers, then rely on ICT infrastructure to contribute to the digital value chain. Complementary services, including digital payments and logistics support, facilitate the growth of the digital economy. The digital economy fosters development by transforming industries, raising productivity and facilitating access by small and medium enterprises (SMEs) to international markets and global value chains (GVCs).

ICT firms include telecommunication infrastructure operators, as well as manufacturers of digital equipment and devices (e.g. electronics components, semiconductors, and communication equipment, including production of software and IT services). Also key to the digital economy are the digital firms that primarily operate in the digital environment built on the ICT infrastructure. The digital economy also includes firms operating in traditional sectors, ranging from agriculture to manufacturing and services, that have adopted ICT infrastructure and digital services as part of their production, distribution and service provision. Providers of e-government services are also part of the digital economy.

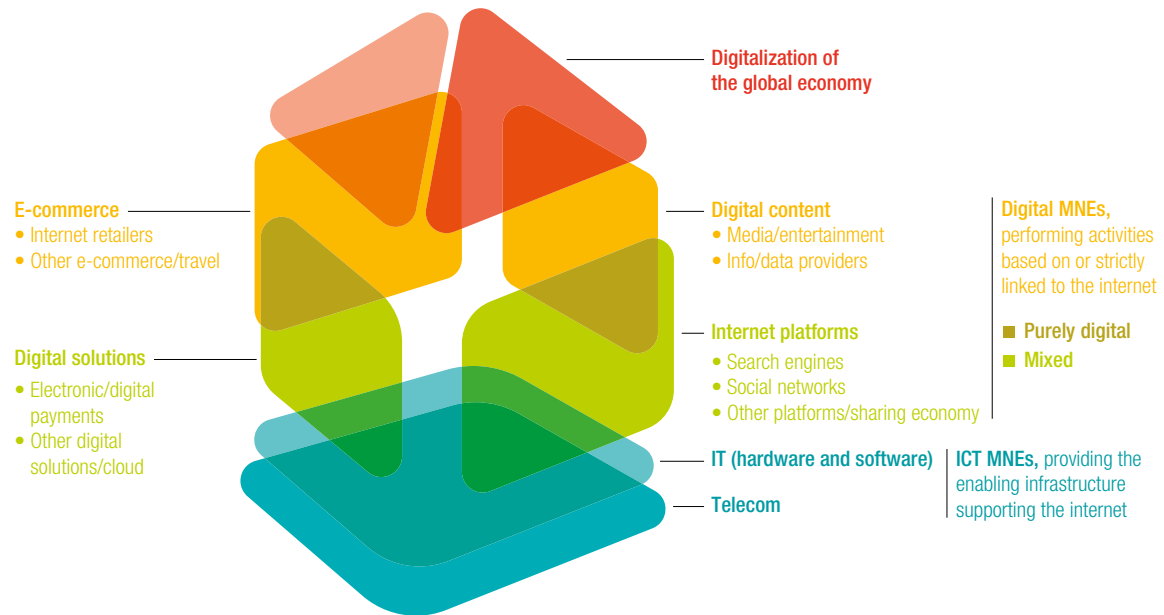
E-commerce is an early outcome of the digital economy. It involves transactions relating to the sale or purchase of goods or services, conducted over computer networks, Internet and social media. An e-commerce transaction can take place between enterprises, households, individuals, governments, and other public or private organizations.

Financial technology (fintech) is digital technology that facilitates and enhances the delivery of financial services. It includes financial transfers, mobile payments, lending and, more recently, cryptocurrency. Some fintech activities improve access to financial services for existing customers as well as the unbanked or underbanked.

Source: UNCTAD 2017.

4.2.1. The architecture of the digital economy

In ASEAN as in other regions, the digital economy is built on information and communication technology (ICT) infrastructure – both hardware and software as well as telecommunication services. An UNCTAD classification of the architecture of the digital economy, which is widely used by researchers, is applied in this report (figure 4.1).

Figure 4.1. The architecture of the digital economy

Source: UNCTAD.

There are two types of participants in the digital economy: digital companies or MNEs, and ICT companies. The former is characterized by the central role of the Internet in their operating and delivery models. They include purely digital players (Internet platforms and providers of digital solutions), which operate entirely in a digital environment, as well as mixed players (e-commerce and digital content providers), which combine a prominent digital dimension with a physical one:

- Internet platforms: digitally born businesses, operated and delivered through the Internet (e.g. search engines, social networks and sharing platforms).
- Digital solutions: other Internet-based players and digital enablers, such as electronic and digital payment operators, as well as cloud and other service providers.
- E-commerce: online platforms that enable commercial transactions, including Internet retailers and online travel agencies.
- Digital content: producers and distributors of information and entertainment services in digital format, including digital media (e.g. video and TV, music, e-books) and games, as well as data and analytics. Digital content can be delivered through the Internet but also through other channels (e.g. cable TV).

International digital firms can make digital content and services available across borders without any local presence or investment, owing to the global reach of the Internet.

ICT companies provide the enabling infrastructure that makes the Internet accessible to individuals, consumers, businesses and governments. They include IT and telecom companies:

- IT companies: manufacturers of devices and components (hardware), software developers and providers of IT services
- Telecom companies: providers of telecommunication infrastructure and connectivity

4.2.2. The digital transformation of industries

The digital revolution is disrupting and transforming industries, businesses and the delivery of goods and services in ASEAN. As much as it has brought challenges, the digital economy has also generated opportunities to accelerate development by increasing business efficiency and productivity, widening access to existing or new markets, and facilitating participation in GVCs. This section offers some examples of transformation due to digital development.

E-commerce significantly contributes to this transformation, owing to its impact on traditional distribution and retailing, advertising, payment systems and the delivery of goods and services. Companies are developing new delivery models using the Internet. New sources of online news and entertainment, along with changes in advertising patterns, have significantly disrupted traditional methods of service and content delivery. Examples include companies such as iflix (Malaysia, an Internet TV provider), Traveloka (Indonesia, a travel and hospitality platform) and Sea Ltd (Singapore, a gaming platform).

Retailing is directly affected by e-commerce. Online retailers such as Alibaba (China), Lazada (Singapore) and Zalora (Singapore) have grown rapidly without needing physical retail stores. Traditional retailers have responded by selling through online retail platforms such as Lazada Marketplace and the Go-Food platform (Go-Jek (Indonesia)) to leverage their online presence and market reach, or by developing their own e-commerce platforms.

Ride-hailing transportation modes, supported by digital applications and mobile phones, are another e-commerce activity that has also grown rapidly in ASEAN, challenging traditional taxi companies and transportation services. Companies such as Grab (Singapore) and Go-Jek (Indonesia) are among the regional leaders in this industry. These companies do not own taxi fleets but operate a digital platform through which taxi companies and private vehicle owners can offer transportation services. These companies have diversified into related services such as food delivery, couriers and payments by linking customers and service providers through their digital platforms.

Payments are critical to the functioning of e-commerce, a fact which has fostered the development of digital systems that rely on fintech. These systems are both challenging traditional banking practices and offering opportunities for new services. For example, cash-on-delivery is popular in some ASEAN countries where credit cards or other banking services

are not widespread and online trust is low. Cash-on-delivery is offered by more than 80 per cent of online merchants in the Philippines and Viet Nam.² Alipay (China) was created using an escrow model to develop trust, and its parent company (Ant Financial) is beginning to expand aggressively into ASEAN.³ The synergies between e-commerce and fintech have pushed digital platforms such as Tencent (China) to enter the banking market, disrupting traditional financial services. The WeBank service, which leverages Tencent's assets and customer base, challenges existing banks.⁴ WeBank is now seeking to expand into ASEAN, where it faces competition from homegrown payment systems developed by e-commerce companies such as Grab and Go-Jek, as well as by fintech start-ups (section 4.4). Digital payment services such as mobile money promote financial inclusion, facilitating access to financial services among existing customers as well as the unbanked. Online-only banks save significant costs as they need fewer or no physical branches.

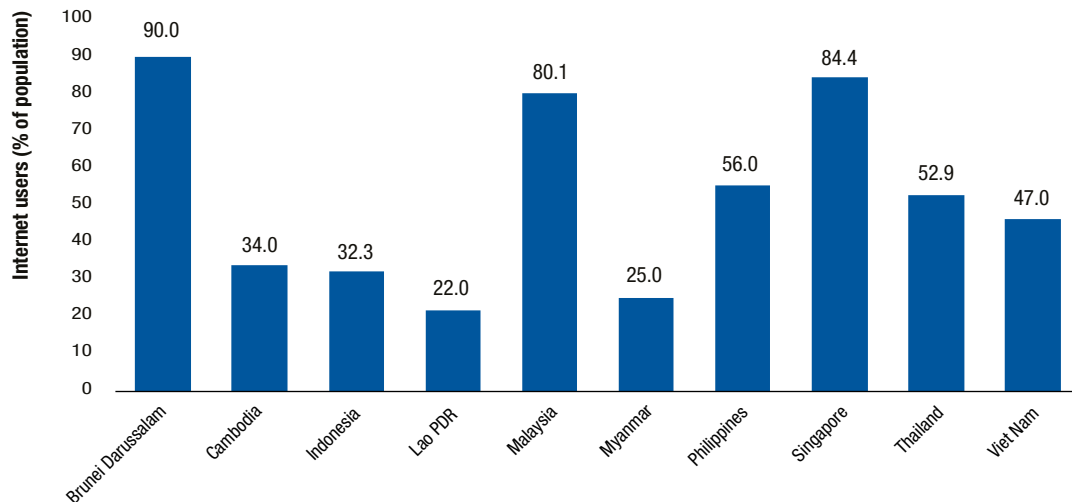
Marketing is also significantly affected by e-commerce, which is disrupting the entire advertising industry. Digital advertising in ASEAN countries is growing fast, with mobile ad spending in six member countries (Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam) set to almost double from \$0.86 billion in 2017 to \$1.37 billion in 2018 – an estimated 57 per cent of digital ad spending in those countries.⁵ This growth is expected to increase rapidly, to exceed \$2.2 billion and account for about 70 per cent of digital ad expenditure by 2021.

Strong mobile phone usage rates and the advent of mobile apps and cloud services have resulted in significant new business opportunities. Entrepreneurs are able to establish start-ups based on successful apps, and many existing companies have developed their own apps, which, along with websites, provide opportunities to interact with customers in new ways and significantly increase market reach. Many large ICT companies and digital MNEs are investing heavily in providing new cloud services that allow access to online content and services in the region. These investors include Axiata (Malaysia), Singapore Telecommunications (Singtel), Telekomunikasi Indonesia, Facebook (United States) and Microsoft (United States).

4.2.3. Drivers of growth

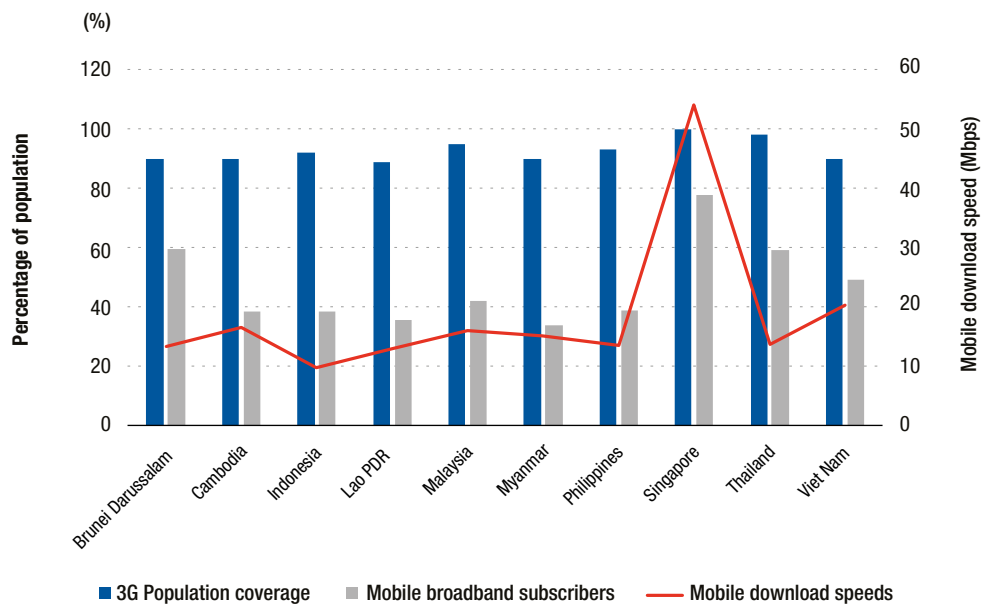
Several factors have underpinned the rapid development of the digital economy in ASEAN. Numbers of Internet and mobile phone users have grown rapidly, resulting in penetration rates that are among the highest in the world (figures 4.2 and 4.3). A population of 640 million people and a rapidly growing middle class also make the region an attractive destination for investment in the digital economy, as does the still modest share of e-commerce in total retail sales. Regional integration through the ASEAN Economic Community, which facilitates the free flow of goods and services, will stimulate digital development. An integrating ASEAN offers opportunities to digital firms to scale up and benefit from economies of scale. In addition, the region has become home to an increasing number of investors and digital enablers that contribute to strengthening the digital ecosystem (section 4.4) and other growth elements of the digital economy (box 4.2).

Figure 4.2. ASEAN: Internet penetration rate, 2017



Source: ITU.

Figure 4.3. ASEAN: Availability and adoption of mobile broadband, 2017



Source: GSMA Intelligence.

Box 4.2. ASEAN: Selected digital characteristics

ASEAN has the potential to become a major digital hub, due to a number of factors that are driving the growth of the region's digital economy:

- ASEAN has the third largest number of Internet users in the world and has been growing at a compound annual growth rate of 13 per cent since 2015. The region has 250 million Internet users in 2016, according to data from the International Telecommunication Union. The region's young population (approximately 70 per cent under the age of 40) and burgeoning class of middle-income consumers offer significant opportunities for the digital economy.^{a,b}
- The Internet economy (transactions conducted online) in the region was worth \$50 billion in 2017. That includes \$10.9 billion in e-commerce goods, \$26.6 billion in online travel, \$6.9 billion in online media and \$5.1 billion in ride-hailing.^b Segments such as e-commerce and ride-hailing are growing by over 40 per cent a year on average. The Internet economy is projected to grow to over \$200 billion by 2025.^c And, it is expected to add \$1 trillion to ASEAN's GDP by 2025 through the increase in broadband penetration, workers productivity and revenues from digital industries.^d
- Countries in the region expect the GDP contribution from the overall digital economy (not just the Internet economy) to increase rapidly (chapter 5). For instance, the digital economy is forecast to grow from 18 per cent of GDP in 2016 to 20 per cent by 2020 in Malaysia, and from 17 per cent in 2017 to 25 per cent by 2027 in Thailand. In the Philippines, the digital economy is expected to contribute 25 per cent of GDP by 2020, up from 10 per cent in 2015.
- The region had more than 935 million mobile connections in 2017. More than 90 per cent of Internet users used smartphones – making mobile devices the most significant channel for digital or e-commerce activities. With a compound annual growth rate of 7 per cent since 2012, the region has one of the fastest-growing mobile cellular bases in the world and a mobile broadband subscription growth rate comparable to that of China.
- The opportunity for further growth in e-commerce in ASEAN is significant. Although e-commerce has grown by an average of 23 per cent a year over the past five years, it still accounts for less than 2 per cent of total retail sales in the region.^e The number of retail stores per capita in the region is only one third of that in the United States.^f The e-commerce market in ASEAN accounts for less than 1 per cent of the global total, compared with 32 per cent in China; this is well below ASEAN's share in both world population and world GDP,^g which suggests that there is significant room for growth in the sector.
- ASEAN countries are further strengthening their digital cooperation in various areas of ICT and are developing a regional ASEAN e-commerce agreement (chapter 5).

Source: ASEAN Investment Report 2018 research.

^a Google-Temasek (2016).

^b Google-Temasek (2017). The report covers Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam. The Internet economy addressed here includes travel, media, ride-hailing and e-commerce activity. As a result, these numbers underestimate the totals for all of ASEAN and for the full digital economy, leaving out entire sectors including ICT providers, such as mobile operators.

^c Google-Temasek (2017).

^d A.T. Kearney (2015, p. 12).

^e Based on Credit Suisse research. See <https://www.digitalnewsasia.com/digital-economy/china-investments-boosting-asean-e-commerce?page=0%2C0>

^f Based on six ASEAN countries (i.e. Indonesia, Malaysia, the Philippines, Singapore, Thailand, Viet Nam).

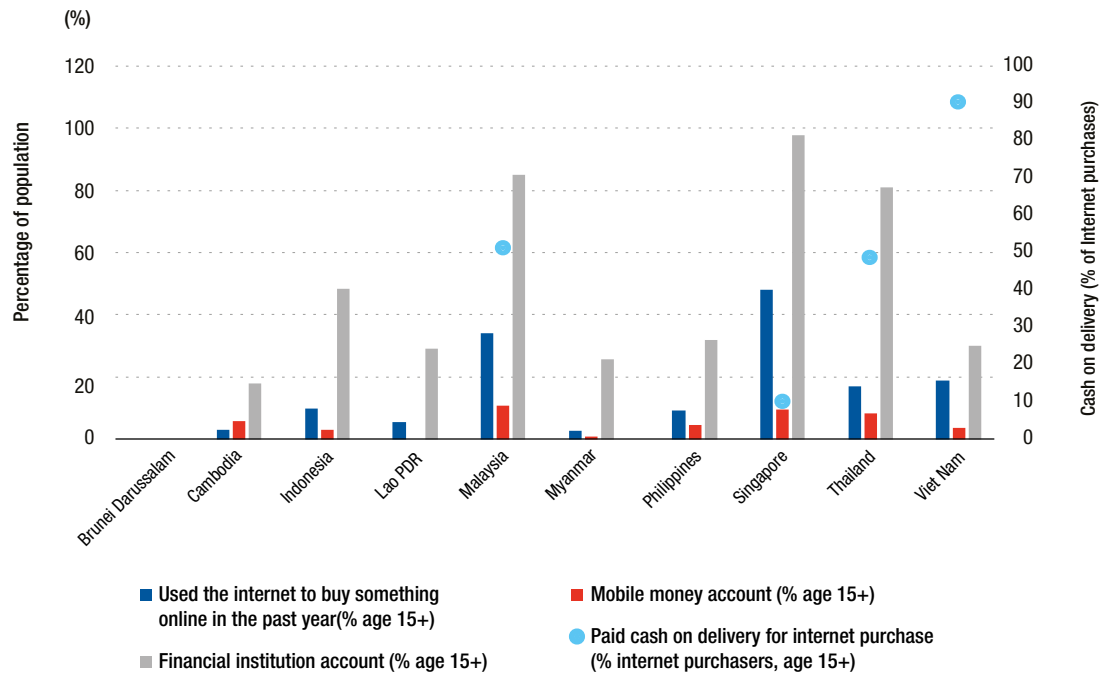
^g A.T. Kearney (2015, p. 17).

4.2.4. Digital economy gaps

Although the digital economy in ASEAN is growing fast, it is facing challenges. ICT infrastructure is widely available, but gaps still need to be addressed to build a competitive digital economy in the region (Chua 2018a). They include (i) gaps in and between networks that need upgrading to increase Internet speed or to cope with increasing demand; (ii) a trust gap, resulting in a reluctance to shop and pay online, which hinders online shopping; (iii) gaps in the availability of digital firms providing complementary services (e.g. payment systems) to help e-commerce companies, particularly small ones, to get started; (iv) insufficient homegrown tech talent; and (v) a shortage of efficient delivery networks.

The digital gaps can also be highlighted in terms of ICT infrastructure and digital firms, particularly e-commerce. Although about 90 per cent or more of citizens across ASEAN countries have access to mobile broadband services,⁶ three investment gaps in ICT infrastructure still need to be addressed: (i) the provision of universal mobile broadband coverage, (ii) the upgrading of broadband provision beyond 3G to provide higher speeds and more reliable service, and (iii) increases in the number of users. The investment needed to provide universal availability of mobile broadband service may not be as significant as might be expected, owing to the prevalence of mobile voice networks (*WIR 2017*).

For digital firms, two challenges restrict e-commerce in the region: a supply gap and a trust gap. First, although online retail and business-to-business services, and logistics services are growing rapidly, they remain limited and more investment in these areas are needed. Online retailers take time and scale to develop, particularly in countries where Internet usage is relatively low. A significant challenge is logistics, which includes not just delivery, but also warehousing and dealing with returns. Second, a trust gap deters Internet users from shopping online. Digital buyers in ASEAN are more reluctant than the global average to share their financial information online – 67 per cent of those in the Philippines, 62 per cent in Thailand and 60 per cent in Indonesia, against the global average of 49 per cent who are reluctant to do so.⁷ As a result, Internet users who do shop online, with the exception of those in Singapore, are more comfortable with cash-on-delivery, which is costly and risky for sellers. In Malaysia, for instance, where over 80 per cent of the population has a bank account, 60 per cent of online purchases are settled using cash-on-delivery. In some parts of the region, such as Indonesia, a significant incidence of online fraud fuels the lack of trust in online shopping,⁸ highlighting the need for robust fintech solutions. As a result, although Internet shopping is on the rise in ASEAN, in most ASEAN countries only a small fraction of Internet users buy online (figure 4.4).

Figure 4.4. ASEAN: Internet and e-commerce usage, 2017

Source: Global Findex.

4.3. INVESTMENT TRENDS

Only limited data are available for analysing FDI in the digital economy. This section uses data on greenfield ICT investment projects and cross-border mergers and acquisitions (M&As) in ICT as proxies, as they correspond closely to the classification by UNCTAD of the architecture of the digital economy.

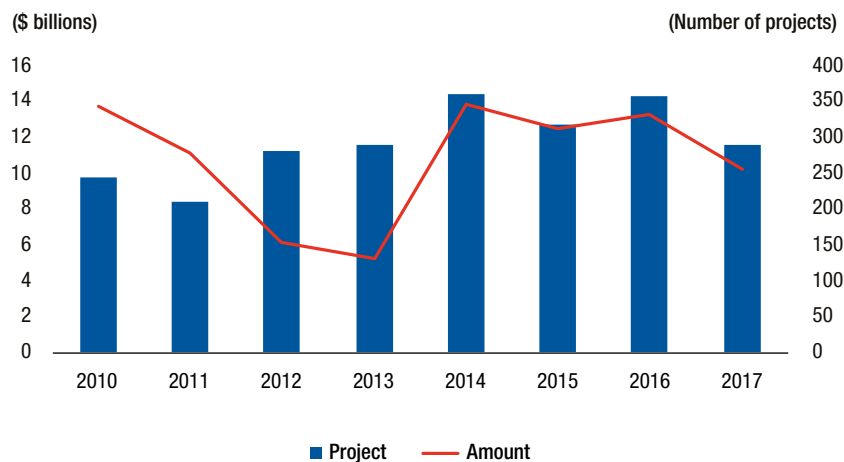
Greenfield FDI projects in ICT cover investment for the manufacturing of computer, electronic and optical products; telecommunication networks and services, IT services and computer technology (which include development of e-commerce applications, computer games, software for interactive digital media, software for cybersecurity and IT software), information services activities (e.g. data processing, data analytics, web hosting, web portals) and non-store retail trade activities (such as catalogue and mail-order houses). Investment in digital solutions such as fintech or payment systems are not captured in the ICT data classification. The data coverage for cross-border ICT M&As is similar to that for greenfield ICT FDI projects.

In addition to FDI and cross-border M&A activities, investments by venture capital firms are also addressed because they play a crucial role supporting the development of the digital economy in ASEAN. In particular, they help foster the creation, growth and regional expansion of local start-ups.

4.3.1. Greenfield FDI projects in ICT

Greenfield FDI projects in ICT in ASEAN averaged about \$11 billion annually between 2010 and 2017 as compared with \$10 billion annually between 2003 and 2009. The trend had been, in general, rising except for the dip in 2015 and 2017 (figure 4.5). The 23 per cent decline in greenfield ICT FDI value, to \$10.2 billion in 2017 from \$13.2 billion in 2016, reflects the global trend. The decline was largely due to lower investment in the manufacturing of electronics hardware and communication equipment, which highlights a longer-term shift in greenfield investments relating to the non-hardware segment of the ICT industry. Manufacturing of hardware (semiconductors and electronic components) and optical equipment have traditionally dominated greenfield ICT investment in the region. Since 2008, however, the share of services activities within ICT (non-hardware segment) has expanded. As a result, projects in software and IT services, data processing and hosting have emerged among the five largest ICT greenfield investments. Non-manufacturing ICT greenfield investment projects grew rapidly, from \$2.8 billion in 2010 to \$3.9 billion in 2017, and from 24 per cent share of total greenfield ICT investment in 2003–2007 to 51 per cent in 2013–2017.

Figure 4.5. ASEAN: ICT greenfield investments, 2010–2017 (Billions of dollars; number of projects)



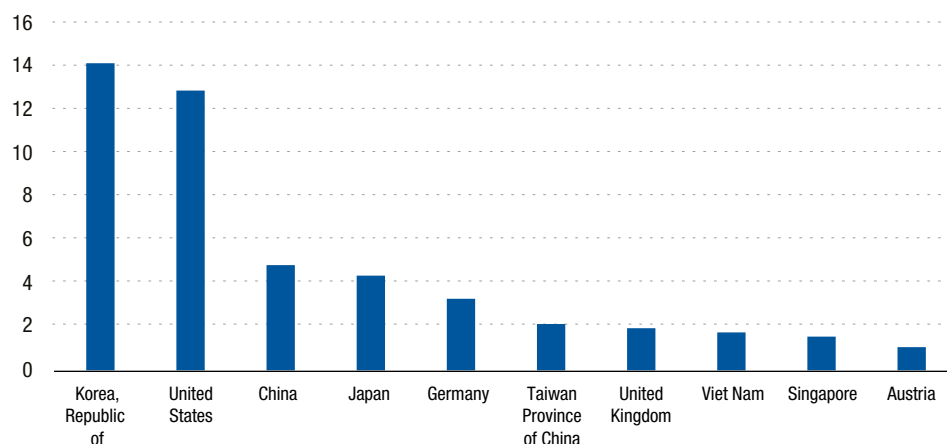
Source: UNCTAD.

The Republic of Korea, the United States and China were the largest investors in greenfield ICT projects between 2013 and 2017 (figure 4.6). Major greenfield ICT investments in 2016–2017 include announcements by Samsung (Republic of Korea) of a \$2.5 billion investment and by LG (Republic of Korea) of a \$1.5 billion investment, both in Viet Nam. Samsung, which is producing most of its mobile phones in Viet Nam, has contributed – together with other Korean companies – to developing a smartphone production hub in that country. Chinese and European mobile phone manufacturers also have operations in ASEAN, including in Indonesia, Thailand and Viet Nam. In addition, foreign MNEs have been increasingly investing in submarine cable networks, data centres, payment systems and e-commerce in the region (section 4.4).

Viet Nam, Singapore and Malaysia, in that order, were the main destinations for ICT greenfield investment between 2013 and 2017. Viet Nam was associated primarily with investment in the hardware segment (e.g. manufacturing of mobile phones). In Myanmar, telecommunication infrastructure has also emerged as a major recipient since 2014, thanks to investments from large telecommunication companies from Asia and Europe, including Telenor (Norway).

In addition to the ICT hardware sector, telecommunication operation is also a major recipient of greenfield ICT projects. Telecommunication networks and services are the key foundation blocks of the digital economy.⁹ They facilitate Internet, social media, e-commerce and fintech activities, enabling and connecting downstream companies. ASEAN countries have therefore been encouraging investments in digital infrastructure to expand coverage and upgrade ICT technology, and local and foreign telecommunication companies have been playing a role in the provision of the infrastructure and services (box 4.3). Supportive regulatory environments and significant private sector investment, including FDI, have supported the development of ICT infrastructure (in particular telecommunication infrastructure) in ASEAN.

Figure 4.6. ASEAN: Top 10 foreign investors in ICT greenfield projects, 2013–2017 (Billions of dollars)

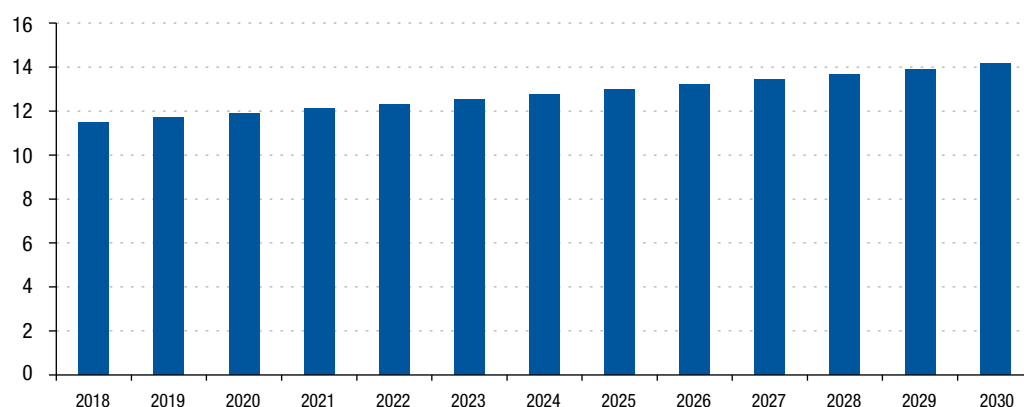


Source: UNCTAD.

Box 4.3. ASEAN: Telecommunication infrastructure investment

The ASEAN telecommunication industry is dominated by large local and foreign corporate groups (section 4.4). They account for over 80 per cent of all mobile subscriptions in the region, and most also provide fixed-line services. Many foreign operators are in strategic partnerships with major local telecommunication companies in developing and operating telecommunication infrastructure in the region. These local and foreign operators invested a cumulative \$131 billion in capital expenditures over the 2005–2017 period, or about \$10 billion annually. Their investments, which include the purchase of property, plant and equipment and the upgrading of technology, are strongly linked to revenues, with ratios ranging between 17 per cent and 23 per cent. On the basis of this ratio, total telecommunication investment in the region is projected to reach \$166 billion over the 2018–2030 period (or an average of \$13 billion per year) to support growing data demand, increase broadband coverage and transition to 5G networks (box figure 4.3.1).^a

Box figure 4.3.1. ASEAN: Projected telecommunication investment, 2018–2030 (Billions of dollars)



Source: ASEAN Investment Report 2018 research.

Note: The forecast for telecommunication investment between 2018 and 2030 is based on a number of assumptions: (i) a business-as-usual scenario, (ii) revenues growing at the rate achieved between 2010 and 2017 (1.7 per cent a year) and (iii) the investment-to-revenue ratio remaining the same as in past years (i.e. an annual average of 20 per cent).

Telecommunication infrastructure is constantly evolving, requiring ongoing investment. The continuous evolution of mobile technologies, the desire to expand mobile coverage and global connections, as well as the growing demand for data (e.g. mobile data, Internet) are driving investment into fixed and wireless access networks, as well as national and international fibre-optic transmission networks. Ongoing investment is required not only to expand geographical coverage but also to upgrade technology from 3G to 4G or 5G in order to improve speed and handle larger volumes of data. Besides networks, a significant amount of telecommunication investment is spent on equipment and devices (e.g. smartphones). In addition, market saturation and competition in their core business have led many telecommunication operators in traditional voice and messaging services in the region to diversify into other areas such as mobile money and cloud computing services, which require further infrastructure investment (e.g. in data centres).

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Box 4.3. ASEAN: Telecommunication infrastructure investment (Concluded)

In comparison with other developing regions such as Latin America, telecommunication companies in ASEAN would need to spend more on capital expenditure as a percentage of their revenues to support the rising demand for ICT infrastructure. In addition, further opening up of the telecommunication industry in some ASEAN countries can help attract more foreign companies to invest or participate in the development of ICT infrastructure in those countries (box table 4.3.1).

Box table 4.3.1. ASEAN: Foreign equity ownership in the telecommunication industry, 2017

(Selected ASEAN countries) (Per cent)

Country	Telecommunication (aggregated)	Individual sectors:	Fixed-line telecommunication infrastructure	Fixed-line telecommunication services	Wireless/mobile telecommunication infrastructure	Wireless/mobile telecommunication services
Cambodia	100		100	100	100	100
Indonesia	57		49	49	65	65
Malaysia	100		100	100	100	100
Philippines	40		40	40	40	40
Singapore	100		100	100	100	100
Thailand	49		49	49	49	49
Viet Nam	53		49	65	49	65
Developing countries average ^a	88		86	86	90	90

Source: Based on the World Bank's Investing Across Borders database, updated to 2017 with data from the UNCTAD Investment Policy Measures database.

^a Based on a total of 67 developing economies.

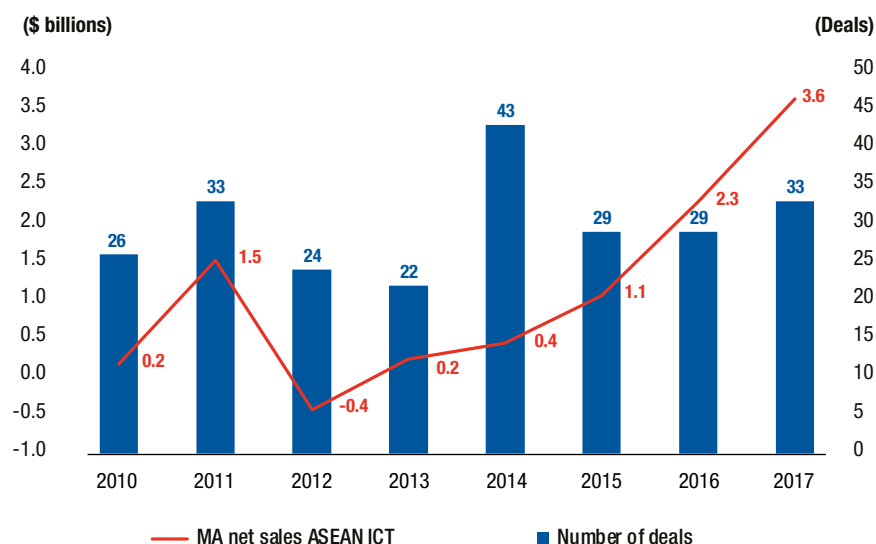
Given the rising demand for, and significant commercial value in, the provision of broader coverage and more efficient infrastructure services, the private sector (both local and foreign entities) will continue to play a major role in the development of ICT infrastructure in the region. Yet private providers of ICT infrastructure (telecommunication), driven by commercial considerations, may not push for universal access unless it would be financially rewarding. Governments can promote universal access through appropriate regulatory policies and incentives (e.g. lower regulatory fees on operators, mobilizing investment for universal service and public-private partnerships) (chapter 5).

Source: ASEAN Investment Report 2018 research.

^a On a current price basis and on the assumption of a continual increase in operator revenues during the period. It assumes that some of the investment will continue to be made in improving broadband coverage.

4.3.2. Cross-border ICT M&As

Cross-border M&As in ICT are on the rise – from just \$172 million in 2010 to \$3.6 billion in 2017 – driven in particular by deals made by Asian companies from China, ASEAN countries and Japan (figure 4.7). Digital MNEs are using M&As to either establish a foothold or strengthen their positions by quickly accessing local markets and networks to scale up or to gain access to technology. ICT MNEs (those providing the enabling infrastructure supporting the Internet) are also using M&As to acquire strategic telecommunication assets in the region (section 4.4).

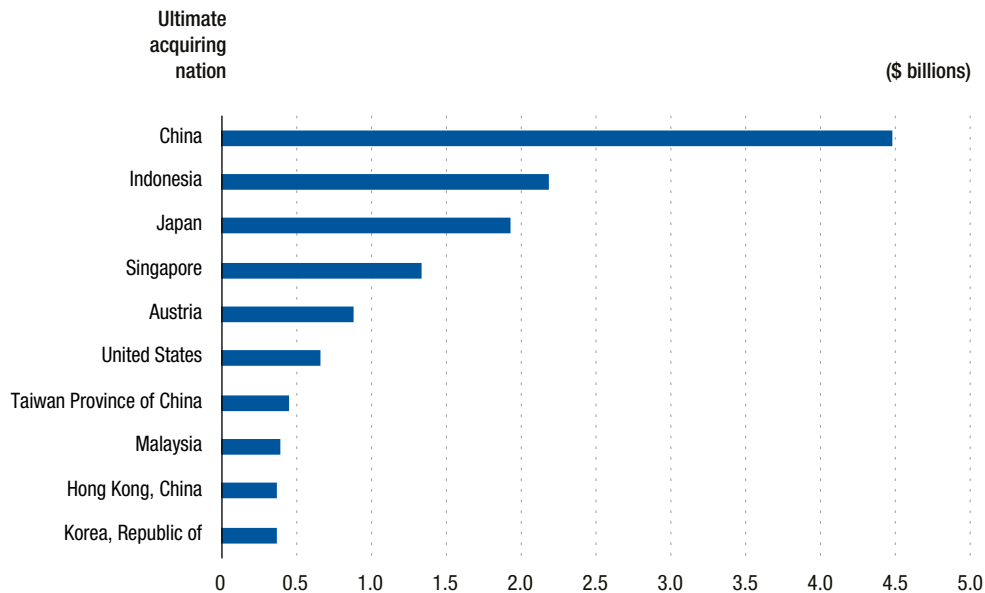
Figure 4.7. ASEAN: Net cross-border M&As in ICT, 2010–2017 (Billions of dollars, number of deals)

Source: UNCTAD M&A database.

Some \$8.9 billion (or \$1.1 billion annually) worth of cross-border M&As in ICT took place in ASEAN between 2010 and 2017, which represents 10 per cent of total M&As in the region and is one of the highest rates among the developing regions. A majority of the ICT M&As were in telecommunication (34 per cent) and information retrieval services, which includes digital services such as online marketplaces and classified advertisement (23 per cent). With M&As in catalogue and mail-order houses (other e-commerce activities) (7 per cent) and telephone communication services (5 per cent), these four segments accounted for 70 per cent of the value of acquisitions in the ICT industry during the period.

Asian corporations are major purchasers of ICT assets in ASEAN. Chinese MNEs lead because of a few megadeals (figure 4.8). Intra-ASEAN M&As in digital activities are also increasing, as regional start-ups such as Grab (Singapore), Go-Jek (Indonesia) and Carousell (Singapore) acquire assets in other ASEAN countries to scale up and build strategic business networks. Besides start-ups, large ASEAN MNEs and business groups are also acquiring companies in e-commerce and fintech, to gain immediate market access or to acquire skills and technology (section 4.4). Indonesia, Singapore and Malaysia are among the top 10 investing nations, suggesting that companies from these countries are rapidly expanding their regional footprint.

Megadeals exceeding \$500 million each pushed up M&As in ICT in the region to a record level to \$3.6 billion in 2017. They include Singtel's acquisition of a 21 per cent stake in Intouch Holdings (Thailand) for \$1.2 billion, followed by Alibaba's (China) investment in the online marketplace Tokopedia (Indonesia) for \$1.1 billion (table 4.1). Alibaba now owns the e-commerce marketplace Lazada (Singapore): it acquired 51 per cent of the company for

Figure 4.8. Top 10 purchasers in ASEAN ICT industry, 2010–2017 (Billions of dollars)

Source: UNCTAD M&A database.

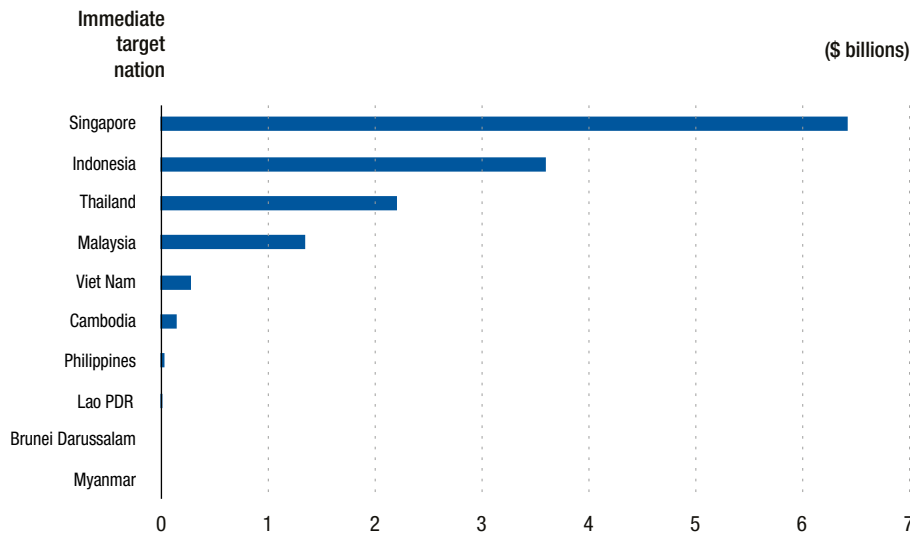
\$1 billion in 2016 and increased its ownership to 83 per cent with another \$1 billion investment in 2017. As of March 2018, Alibaba had invested about \$4 billion in Lazada to help accelerate the company's growth and integrate its activities with Alibaba's wider e-commerce service.¹⁰ Innovation Network Corporation (Japan) and Khazanah Nasional (a sovereign wealth fund of Malaysia) acquired a 34 per cent stake in edotco (Malaysia), a business unit of Axiata Group (Malaysia), for \$600 million. Other significant digital M&A deals were undertaken by companies from Australia, China, Japan, Malaysia, Singapore and the United States.

Singapore remained the primary target country for ICT M&A activities, accounting for 46 per cent of the value of such deals in 2010–2017 (figure 4.9), followed by Indonesia (26 per cent) and Thailand (16 per cent). Singapore's mature M&A environment, competitive digital economy ecosystem and larger pool of digital start-ups contribute to making the country an attractive destination for digital investment. Singapore has also established itself as a regional hub for digital MNEs to expand into neighbouring markets, and other countries in the region (e.g. Malaysia) are also positioning themselves similarly.

Table 4.1. ASEAN: Cross-border M&As in the digital economy, 2016–2017 (Millions of dollars and per cent) (Selected cases)

Ultimate acquiring company	Ultimate acquiring nation	Target company	Target nation	Target industry	Value	Shares acquired	Year
Singapore Telecommunication	Singapore	Intouch Holdings PLC	Thailand	Radiotelephone communications	1,182	21	2016
Alibaba Group Holding	China	PT Tokopedia	Indonesia	Information retrieval services	1,100	0	2017
Alibaba Group Holding	China	Lazada South East Asia Pte Ltd	Singapore	Catalog and mail-order houses	1,000	0	2016
Investor Group	Japan	edotco Group Sdn Bhd	Malaysia	Radiotelephone communications	600	34.1	2017
Investor Group (Goldman Sachs and TPG Special Situations Partners)	United States	AirTrunk Pte Ltd	Singapore	Data processing services	400	0	2017
PT Sarana Menara	Indonesia	XL Axiata Tbk PT-Telecommunications Towers	Indonesia	Radiotelephone communications	267	100	2016
Hillhouse Capital Management	China	Garena Interactive Holding Ltd	Singapore	Information retrieval services	230	0	2017
Khazanah Nasional	Malaysia	Garena Interactive Holding Ltd	Singapore	Information retrieval services	169	0	2016
Tencent Holdings	China	Garena Interactive Holding Ltd	Singapore	Information retrieval services	100	0	2017
CITIC Group	China	Acclavis Technologies & Solutions Pte Ltd	Singapore	Computer facilities management services	54	100	2016
TIME dotCom	Malaysia	Symphony Communication PCL	Thailand	Information retrieval services	42	37	2017
Investor Group	Japan	Astroscale Pte Ltd	Singapore	Communications services, nec	25	0	2017
Dreamscape Networks	Australia	Vodien Internet Solutions Pte Ltd	Singapore	Computer facilities management services	21	100	2017
SpeedCast International	Australia	ST Teleport Pte Ltd	Singapore	Radiotelephone communications	19	100	2016
Telekomunikasi Indonesia	Indonesia	PT Melon Indonesia	Indonesia	Information retrieval services	13	49	2016
Credit China FinTech Holding	China	Anigo Technologies JSC	Viet Nam	Data processing services	13	51	2017
Shanghai Yinda Tech Group	China	CMC Infocomm Ltd	Singapore	Communications services, nec	8	74.4	2017
iSelect	Australia	Intelligent Money Sdn Bhd	Malaysia	Information retrieval services	4	27.7	2017
Fatfish Internet Group	Australia	Megafash Pte Ltd	Singapore	Information retrieval services	2	100	2017
Resource Holding Management	Malaysia	Enovax Pte Ltd	Singapore	Computer facilities management services	1	100	2017
Migme	Singapore	Shopee Global PT	Indonesia	Information retrieval services	1	100	2016
NEC Corporation	Japan	Nec Stee Cloud Services Pte Ltd	Singapore	Computer facilities management services	1	40	2016
mTouche Technology	Malaysia	Mobile Asia Vietnam Co Ltd	Viet Nam	Communications services, nec	..	100	2017
Excalibur Mining Corporation	Australia	Droptmyst Pte Ltd	Singapore	Information retrieval services	..	100	2016
Tri-Stage	Japan	Merdis International PT	Indonesia	Catalog and mail-order houses	..	26	2016
Mobile Create	Japan	Infotrack Telematics Pte Ltd	Singapore	Computer related services, nec	..	14.1	2016
GMO Internet	Japan	GMO-Z com NetDesign Holdings Co Ltd	Thailand	Information retrieval services	..	100	2016
Monstar Lab	Japan	Lifetime Technologies Co Ltd	Viet Nam	Computer programming services	..	100	2016
Mitsui & Company	Japan	Global Commerce Indonesia PT	Indonesia	Information retrieval services	..	10	2016
UTC Investment	Korea, Republic of	VNPT Electronic Payment JSC	Viet Nam	Communications services, nec	..	62.3	2016
Xylem	United States	Visent Pte Ltd	Singapore	Computer facilities management services	..	100	2016
Grand Perfecta	Japan	Just Mobile Sdn Bhd	Malaysia	Information retrieval services	..	100	2016
Investor Group	Japan	Sociolla	Indonesia	Catalog and mail-order houses	..	0	2017
Nihon Unisys	Japan	PT Indivara Sejahtera Mandiri	Indonesia	Computer related services, nec	..	0	2017
Investor Group	Japan	Southern Star Telecommunication Equipment Joint Stock Co	Viet Nam	Communications services, nec	..	100	2017
Longfin Corporation	United States	Ziddu.Com	Singapore	Information retrieval services	..	100	2017
Nippon Telegraph & Telephone	Japan	PT Abayor International	Indonesia	Computer facilities management services	..	70	2017
Fave Group	Singapore	Beeconomic Singapore Pte Ltd	Singapore	Information retrieval services	..	100	2017

Source: UNCTAD M&A database.

Figure 4.9. ASEAN: Targets of ICT M&As, 2010–2017

Source: UNCTAD M&A database.

4.3.3. Venture capital

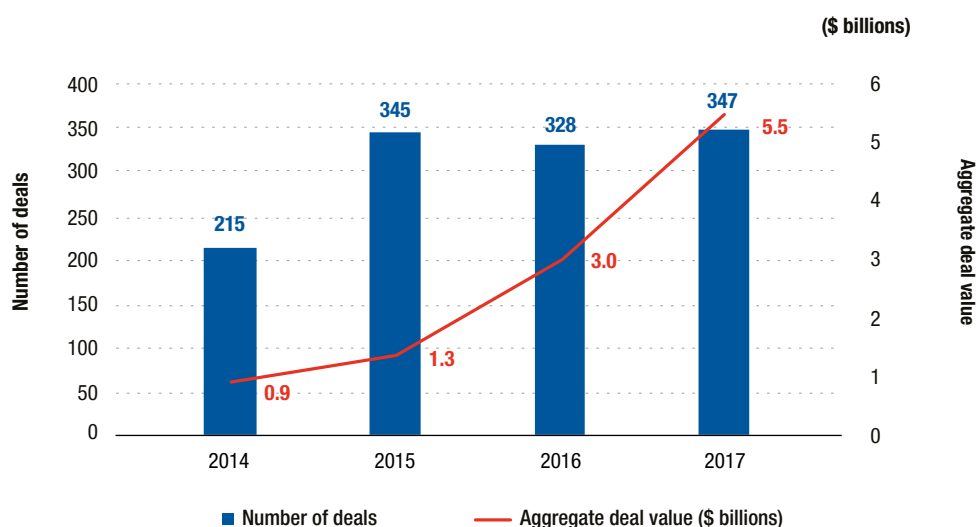
Venture capital (a type of private equity capital) plays a crucial role in the development of the digital economy in ASEAN. Promoting venture capital investments is important for the development of the region's start-ups and its digital ecosystem. Such investments provide an important source of financing for MSMEs and start-ups, which often lack their own capital to invest in or grow their businesses. They provide funds to start-ups in return for a stake in the business and participate in the management of the operations. Venture capital funds are usually provided by institutional investors, corporations and high-net-worth individuals. Some start-ups raise funding from these firms to expand into neighbouring countries, including through acquiring other strategic start-ups or other SMEs.

The venture capital industry is growing rapidly in ASEAN. It includes deals with exposure to the digital economy (figure 4.10). Venture capital investments into start-ups in the region in 2017 rose by about 100 per cent, to \$8 billion, from \$4 billion in 2016 (SVCA and Preqin 2018). Foreign and ASEAN corporate venture capital firms are driving the growth, with significant large deals involving foreign firms. These deals in 2017 included a \$2 billion investment by Didi Chuxing (China) and Softbank (Japan) in Grab (Singapore), a \$1.1 billion investment by Alibaba (China) in Tokopedia (Indonesia) and a \$1.5 billion investment by a consortium of investors including Google (United States), JD.com and Meituan-Dianping (both from China), Samsung Venture International Corporation (Republic of Korea), Temasek Holdings (Singapore) and Tencent (China) in Go-Jek (Indonesia) in 2018.

Cumulative venture capital investments with exposure to the digital economy over the 2014–2017 period amounted to \$10.7 billion (or \$2.7 billion annually), growing an average of more than 54 per cent a year. The recent years had witnessed a rapid growth in VC investment in the digital economy with 2017 recording a significant rise by more than double the annual average. In 2016, these investments represented 0.18 per cent of the region's GDP, up from 0.04 per cent in 2014. This ratio still lags that of China, where venture capital represents 0.30 per cent of GDP, and the United States, at 0.40 per cent of GDP in 2016.¹¹ This suggests that there is scope for the venture capital industry to grow. In addition, the strong growth potential of the digital economy in ASEAN and the rapid increase in the number of start-ups to back are expected to attract more venture capital investments.

Singapore accounts for about two thirds of the region's total venture capital funding, yet such investments are growing most rapidly in Indonesia (120 per cent annually on average), influenced by that country's large domestic market and the potential it offers for start-ups.¹² Venture capital activity is picking up in other ASEAN countries as well. In Viet Nam, for example, more than 20 e-commerce platforms have now raised venture capital funding, both from outside ASEAN (e.g. Intel Capital (United States) and Goldman Sachs (United States)) and within the region (e.g. Central Group (Thailand), Pix Vine Capital (Singapore)). Venture capital companies have also been increasingly active in the Philippines (e.g. Acudeen) and Thailand, with investments from Asia (e.g. China, Japan, the Republic of Korea, Malaysia and Singapore) and Europe. As a result, the number of venture-capital-funded start-ups in Thailand has increased from just 3 in 2012 to (cumulatively) 75 in 2016, with investment increasing by 120 per cent over that period.

Figure 4.10. Venture capital deals* with exposure to the digital economy in ASEAN, 2014–2017



Source: Preqin, based on Kam (2018).

* Figures exclude add-ons, grants, mergers, secondary stock purchases and venture debt.

Many foreign venture capital firms — from both developed and developing economies — invest in and operate in ASEAN, attracted by the growth of digital start-ups and the potential of the e-commerce and fintech industries in the region (section 4.4). ASEAN venture capital companies are also actively funding start-ups in the region, and many large ASEAN companies, including banks, have established their own venture capital funds.

4.4. KEY PLAYERS

The development of the digital economy in ASEAN relies on the interlinked contributions of different types of companies (table 4.2). Telecommunication companies and MNEs investing in digital infrastructure networks enable the development of the Internet platforms, digital solutions, e-commerce and digital content that fuel the rest of the digital economy. Digital firms — whether giants or start-ups — focus on developing new tools that promote efficiency, expand market access or create new markets, foster innovation, and disrupt established production and distribution networks and service delivery. Traditional MNEs are incorporating digital elements into their operations, investing in digital firms and/or moving into new digital businesses themselves. In addition, financial institutions, including venture capital and private equity funds, are contributing to the digital revolution not only by funding digital initiatives, but also by facilitating access to financial services through digital innovation. Hardware ICT manufacturers also play an important role in the development of the digital economy such as through production of semiconductors, electronics components, devices, mobile phones and optical equipment.¹³

4.4.1. Telecommunication MNEs

ASEAN companies and foreign MNEs have been the main investors in telecommunication infrastructure, which they own and operate in the region. Although fixed-line providers in most ASEAN countries are largely domestic companies, many mobile network operators are large MNEs. These MNEs have been playing a major role in the development of telecommunication infrastructure in the region, contributing to connecting ASEAN countries through telecommunication networks and thereby supporting the development of the region's digital economy.

ASEAN telecommunication companies are a significant source of investment in telecommunication infrastructure, both in their home countries and elsewhere. Their sizeable assets and regional presence make them the largest regional digital entities: the 10 largest ASEAN digital infrastructure and telecommunication operators held nearly \$120 billion in assets in 2017 (table 4.3). With their significant cash holdings (\$6.4 billion in 2017), they have been expanding their regional footprint through investments in infrastructure expansion and upgrades, strategic partnerships with local telecommunication operators and acquisitions of assets. They have also been investing in new digital businesses (e.g. digital solutions, data-centric operations, digital financial services, digital advertising, Internet and network platforms).

Table 4.2. ASEAN: Categories of digital investors

Investors	Activities	Investors (selected)	Investments (selected)
Telecommunication infrastructure MNEs	Invest in - mobile and fixed lines telecommunication - backbone networks - data centres - upgrading of technology - undersea marine cables	Axiata (Malaysia)	Smart (Cambodia) XL Axiata (Indonesia) Celcom (Malaysia) M1 (Singapore)
		Singtel (Singapore)	Globe Telecom (Philippines) Telkomsel (Indonesia) Advanced Info Services (Thailand)
		Ooredoo (Qatar)	Indosat Ooredoo (Indonesia) Ooredoo Myanmar
		Telenor (Norway)	Telenor Myanmar
Major digital MNEs	Invest in - platforms and applications - digital content - digital solutions - e-commerce and platforms - fintech and platforms	Google (United States)	Go-Jek (Indonesia) Data centre (Singapore)
		Facebook (United States)	Jupiter cable (Asia to United States) Data centre (Singapore)
		Amazon Web Services (United States)	Data centres (Singapore) Edge locations (Singapore, Malaysia, Philippines) Amazon (Singapore)
		Alibaba (China)	Lazada (Singapore) Tokopedia (Indonesia)
		Tencent (China)	Sea (Singapore) Go-Jek (Indonesia) Traveloka (Indonesia) Tiki.vn (Viet Nam) Pomelo Fashion (Thailand)
Digital start-ups	Entrepreneurs, innovators and MSMEs invest in - e-commerce and digital platforms - e-payment solutions, fintech	Grab (Singapore)	Cambodia, Indonesia, Malaysia, Thailand
		Jobstreet (Malaysia)	Indonesia, Philippines, Singapore, Viet Nam
		Sale Stock (Indonesia)	Singapore
		Akulaku (Indonesia)	Malaysia, Philippines, Viet Nam
		Coins.ph (Philippines)	Malaysia, Singapore, Thailand
Traditional MNEs	Invest in online companies and other digital operations Leverage digital tools to improve efficiency, market access and innovation Expand into new digital businesses	Central Group (Thailand)	Joint venture with JD (China) for JD.co.th online platform
		e-Bay (United States)	Teamed up with Telekomunikasi (Indonesia) to operate Belanja.com (an e-commerce platform) in Indonesia
		Lippo Group through Lippo Matahari (Indonesia)	MatahariMall.com
		Toyota (Japan) Honda (Japan) Hyundai Motor (Republic of Korea)	Grab (Singapore)
		Sumitomo Corporation (Japan)	Hanoi Smart City (Viet Nam)
Financial institutions and venture capital companies	Provide funding for the development of the digital economy Facilitate access to financial services	Softbank (Japan)	Grab (Singapore)
		Vertex Ventures (Singapore)	Grab (Singapore) InstaRem (Singapore)
		Ant Financial (China)	Ascend Money (Thailand) Globe Telecom's Mynt (Philippines)

Source: ASEAN Investment Report 2018 research.

Table 4.3. ASEAN's 10 largest telecommunication MNEs, by assets and presence in the region, 2017

Name	Headquarters	Activity	Cash/near-cash item (\$ millions)			Total assets (\$ millions)			Presence in other ASEAN countries (selected cases)
			2010	2015	2017	2010	2015	2017	
Singapore Telecommunications	Singapore	Diversified telecommunication services	2,173	343	382	31,171	32,345	34,580	Cambodia, Indonesia, Malaysia, Philippines, Thailand, Viet Nam
Axiata Group	Malaysia	Wireless telecommunication services	2,039	1,276	1,661	12,374	13,038	17,214	Cambodia, Indonesia, Myanmar, Singapore, Thailand
Telekomunikasi Indonesia	Indonesia	Diversified telecommunication services	1,016	2,028	1,851	11,109	11,985	14,607	Malaysia, Singapore
True Corp	Thailand	Diversified telecommunication services	151	294	560	3,790	7,861	14,286	..
PLDT	Philippines	Wireless telecommunication services	837	990	658	6,343	9,697	9,190	Malaysia, Singapore
Advanced Info Service	Thailand	Wireless telecommunication services	347	274	327	3,229	5,040	8,721	Singapore
Telekom Malaysia	Malaysia	Diversified telecommunication services	1,133	816	423	6,749	5,672	6,097	Indonesia, Singapore
Globe Telecom	Philippines	Wireless telecommunication services	134	252	224	2,982	4,170	5,556	Singapore
Maxis	Malaysia	Wireless telecommunication services	292	301	148	5,919	4,411	4,740	Indonesia, Singapore
XL Axiata	Indonesia	Wireless telecommunication services	41	239	181	3,035	4,244	4,145	Malaysia
Sum of 10 companies			8,161	6,813	6,415	86,702	98,463	119,135	

Sources: Bloomberg and Orbis.

The largest ASEAN telecommunication companies, such as Singtel (Singapore) and Axiata (Malaysia), have significant operations across the region (chapter 3). Even smaller operators not listed in the table, such as Intouch (Thailand), Total Access Communication (Thailand) and Viettel (Viet Nam), have invested in other ASEAN countries. ASEAN telecommunication companies such as Globe Telecom, in strategic partnership with Singtel, play an important role in developing digital infrastructure in their home countries (box 4.4).

Foreign MNEs have also invested in developing and owning telecommunication infrastructure in the region. For instance, Ooredoo (Qatar) operates in Indonesia through its subsidiary (Indosat), while Telenor (Norway), KDDI (Japan) and Sumitomo (Japan) have each established a presence in Myanmar.¹⁴ Some do not own all or majority stakes in telecommunication operations in the

region but have strategic partnerships with local telecommunication companies, which are their affiliates.

Box 4.4. Globe Telecom (Philippines)

Globe Telecom, a telecommunication affiliate of Singtel (Singapore) and a subsidiary of the Ayala Group (chapter 3), facilitates the development of the digital economy in the Philippines. Through the operation of its mobile, fixed-line and broadband networks, Globe enables digital activities throughout the country, including e-commerce and fintech – two emerging digital industries in which Globe also invests. In addition, Globe operates along the telecommunication value chain through its 34 subsidiaries, the main one providing downstream business services that rely on Globe's telecommunication infrastructure (box table 4.4.1).

Box table 4.4.1. Globe Telecom: Main subsidiaries and activities

Subsidiary	Activity
Innove Communications, Inc	Wholly owned. Provides fixed-line telecommunication and broadband services, high-speed Internet, private data networks, Internet protocol-based solutions and multimedia content delivery.
Techglobal Data Center, Inc	Joint venture between Innove (49 per cent) and Techzone Philippines (51 per cent). Operates and manages data centres, and provides IT-enabled, knowledge-based and computer-enabled support services.
GTI Business Holdings, Inc	Wholly owned. Provides voice over Internet protocol services. Wholly owns subsidiaries overseas (e.g. GTI Corp (United States), Globe Telecom (Hong Kong, China), Globetel (Singapore) and Globetel European (United Kingdom)).
Kickstart Ventures, Inc	Wholly owned. Provides start-ups with funds, mentorship and coaching on market access. Supports start-ups in the Philippines and abroad (Indonesia, Canada and the United States).
Asticom Technology, Inc	Wholly owned. Provides shared services, system integration and IT services to domestic and international markets.
Globe Capital Venture Holdings, Inc	Wholly owned. Incorporated in 2015, when it also incorporated two wholly owned subsidiaries (Globe Fintech Innovations and AdSpark Holdings) in the Philippines. All three are holding companies for Globe Telecom's non-core digital businesses.
TaoDharma	A wholly owned subsidiary established to operate and maintain retail stores in strategic locations in the country. Sells telecommunication or Internet-related services, devices and accessories.

Sources: Globe Telecom, 2017 17A form submitted to the Securities and Exchange Commission and Philippine Stock Exchange.

Globe offers a wide range of digital services (box table 4.4.2). Between 2005 and 2016, it invested \$5.6 billion to improve its infrastructure and accelerate the speed of data communication. In the past five years, Globe's capital expenditures averaged 31 per cent of total revenues, one of the highest ratios in the region. Globe Telecom is continuously upgrading its digital technologies (e.g. infrastructure, software, products and services). In 2016, it signed a \$750 million contract with Huawei Technologies (China), Nokia (Sweden) and Wuhan Fiberhome International Technologies (China) to accelerate the adoption of LTE (long-term evolution) technology, thereby enhancing data services and the customer experience. The project is increasing the capacity for data and fixed-wireless broadband to provide telecommunication services in the country, including to places where broadband services are not currently available. It has further expanded the mobile and fixed broadband networks, with greater 3G and LTE availability, by deploying multiple-input, multiple-output technology.

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Box 4.4. Globe Telecom (Philippines) (Concluded)**Box table 4.4.2. Globe Telecom: Key digital business activities**

Segment	Activities
Mobile services	Digital mobile communication and Internet-on-the-go services on a nationwide, fully digital network using GSM, 3G, HSPA+ and LTE technologies. Voice, SMS, data and value added services through three major brands: Globe Postpaid, Globe Prepaid and TM (including fully mobile, Internet-on-the-go service). Services include mobile voice (local, national and international long-distance call services), SMS (local and international) and data.
Fixed-line and broadband services	Wide range of fixed-line communications services, wired and wireless broadband access, and end-to-end connectivity solutions customized for consumers, SMEs, large corporations and businesses. Services include fixed-line voice, corporate data and home broadband.

Source: Globe Telecom.

Beyond the development of the digital economy in its home country, Globe also facilitates the integration of the Philippines in the regional and global economies by connecting customers, suppliers and infrastructure networks across borders. Globe's main customers include telecommunication and digital users such as e-commerce start-ups, information technology and business process outsourcing (IT-BPO) companies, digital enablers and platform developers. In addition, Globe relies on both local and foreign suppliers and contractors. It sources its equipment and technology mainly from leading MNEs, operating in and outside ASEAN (box table 4.4.3). Globe also contracts out some business process operations to IT-BPO companies located in the Philippines, including Convergys (United States), Tech Mahindra (India), Teleperformance (France) and Accenture (Ireland). At the same time, Globe's telecommunication infrastructure (e.g. its fixed lines, as well as its data and IT software systems) also help support the development of the Philippines' own IT-BPO industry (*AIR 2017*). Finally, Globe is a member of the Bridge Alliance, a joint venture with other leading Asia-Pacific mobile operators to build regional infrastructure and establish a common service platform delivering regional mobile services to subscribers (chapter 3). It has invested in some major cross-country cable systems that help connect telecommunication infrastructure across ASEAN such as the APCN2 (Asia Pacific Cable Network 2), which links Malaysia and Singapore with non-ASEAN countries (e.g. Japan, the Republic of Korea, China) and the SEA-ME-W3 (Southeast Asia–Middle East–Western Europe) cable.

Box table 4.4.3. Globe: Selected suppliers

Equipment	Suppliers
Mobile equipment	Huawei Technologies (China)
Transmission and Internet protocol equipment	ECI Telecom (Israel) Aviat Networks (United States) Cisco (United States)
Network modernization programme	Huawei Technologies (China)
Fixed-line and broadband equipment	NEC (Japan) Huawei Technologies (China) ZTE Corporation (China) Tellabs (United States and Singapore), renamed Coriant Operations (United States)
IT modernization programme	Amdocs (United States)

Source: Globe.

Source: *ASEAN Investment Report 2018* research, based on interview with the company and annual reports (various years).

In addition to telecommunication infrastructure, telecommunications companies are building data centres in ASEAN countries, such as Indonesia, Malaysia and Singapore. Telin Singapore, a subsidiary of Telekomunikasi Indonesia, and China Mobile International have been building data centres in Singapore. Global digital MNEs are increasingly investing in international submarine cable systems connecting ASEAN countries and with other regions. The SEA-ME-WE 3 cable connecting most of the countries in ASEAN with the Middle East and Western Europe is sponsored by 92 investors from the telecommunication industry, with Singtel acting as the administrator. China Mobile International owns submarine cable systems including the Southeast Asia–Japan Cable (SJC) and plans to expand investments in submarine cable systems in Singapore. The SJC involves a consortium of companies that includes Brunei International Gateway, Globe Telecom (Philippines), Singapore Telecommunication, Telekomunikasi Indonesia and TOT Pcl (Thailand).

4.4.2. Digital MNEs

Most of the major digital MNEs present in ASEAN are from developed countries. The region's large and growing markets, rising demand for data storage (e.g. investment in data centres by Google, Facebook, Microsoft, Amazon and NTT Communications) and these MNEs' significant resources, assets and proprietary digital technology have strengthened their growing footprint in ASEAN.

Companies from the United States dominate the top 30 digital MNEs present in the region (table 4.4), but Chinese digital MNEs such as Alibaba have been actively investing in ASEAN in recent years. Although most of the top 30 are present in multiple countries, a few countries dominate as hosts: Singapore leads with assets of all 30, followed by Malaysia (19), Indonesia (13), the Philippines (10), Thailand (9) and Viet Nam (8).

These global digital MNEs fall into three main categories:

- Traditional media companies operating in digital media activities, such as TimeWarner, Sky and News Corporation
- Tech giants, including Alphabet (Google), Facebook and Yahoo
- E-commerce MNEs such as Alibaba, Amazon, e-Bay and Naspers

Global digital MNEs are expanding in ASEAN in various ways, ranging from greenfield operations and M&As to partnerships and equity investments in local start-ups. In 2017, Amazon launched Amazon Prime, which supports fast shipping, streaming and gaming, in Singapore, where it also opened a 100,000 square-foot fulfilment centre. Also in 2017, BroadSoft (United States) partnered with Thailand's largest mobile communications provider, Advanced Information Service (AIS), to offer cloud-based unified communications services to Thai subscribers. Besides greenfield investments and partnerships, top digital MNEs have also bet on some local start-ups to help them build networks or scale up in the region. Tech giants Google (United States) and Alibaba (China) have invested in major start-ups such as Go-Jek (Indonesia) and Grab (Singapore).

Table 4.4. Top 30 digital MNEs with presence in ASEAN, 2016

Company	Headquarters	Digital activity	Global assets (\$ billions)	Global revenues (\$ billions)	ASEAN countries (selected locations)
			2016	2016	
Comcast	United States	Banks	166.6	74.5	Singapore
Alphabet	United States	Banks	147.2	75.0	Singapore
Liberty Global	United States	Banks	67.9	18.3	Indonesia, Malaysia, Singapore
Amazon.Com	United States	Capital markets	65.4	107.0	Indonesia, Singapore
Time Warner	United States	Metals and mining	63.8	28.1	Philippines, Singapore
Alibaba Group	China	Metals and mining	56.4	15.6	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
Facebook	United States	Financial services	49.4	17.9	Malaysia, Singapore
Twenty-First Century Fox	United States	Metals and mining	48.2	27.3	Malaysia, Philippines, Singapore, Thailand
Tencent Holdings	China	Insurance	47.3	15.8	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
Yahoo	United States	Insurance	45.2	5.0	Indonesia, Malaysia, Philippines, Singapore, Viet Nam
Automatic Data Processing	United States	Telecommunication	43.7	11.7	Singapore
Rakuten	Japan	Food and staples retailing	35.4	5.9	Indonesia, Malaysia, Singapore, Thailand
First Data Corporation	United States	Oil, gas and consumable fuels	34.4	11.5	Brunei Darussalam, Malaysia, Singapore
Thomson Reuters	Canada	Oil, gas and consumable fuels	29.1	12.2	Singapore
Paypal	United States	Metals and mining	28.9	9.2	Singapore
Fidelity National Information Services	United States	Financial services	26.3	6.6	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
CBS	United States	Oil, gas and consumable fuels	23.8	13.9	Indonesia, Singapore
Sky	United Kingdom	Real estate investment	23.5	16.1	Malaysia, Singapore
Viacom	United States	Airlines	22.5	12.5	Indonesia, Malaysia, Singapore
Alliance Data Systems	United States	Metals and mining	22.3	6.4	Singapore
Liberty Interactive	United States	Real estate investment	21.2	10.0	Singapore
eBay	United States	Biotechnology	17.8	8.6	Malaysia, Singapore
Priceline Group	United States	Containers and packaging	17.4	9.2	Singapore
Naspers	South Africa	Commercial services and supplies	16.7	5.9	Malaysia, Singapore, Thailand, Viet Nam
Discovery Communications	United States	Road and rail	15.9	6.4	Malaysia, Singapore
VMware	United States	Metals and mining	15.7	6.6	Indonesia, Malaysia, Philippines, Singapore, Thailand
Expedia	United States	Construction materials	15.5	6.7	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
News Corporation	United States	Chemicals	15.5	8.3	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam
Nielsen Holdings	United Kingdom	Health care	15.3	6.2	Malaysia, Myanmar, Singapore
Activision Blizzard	United States	Commercial services	15.2	4.7	Singapore

Sources: Based on *World Investment Report 2017* and Orbis.

Note: Rakuten (Japan) reduced its presence in the region by selling off its assets in the e-commerce marketplace in Indonesia, Malaysia and Singapore to other e-commerce companies in 2016. In Thailand, it sold Tarad.com to a Thai company. However, it continues to operate in the region in other digital businesses such as Rakuten Travel, Viber and Rakuten Ventures and maintains its regional headquarters in Singapore. Rakuten looks for new opportunities for growth and plans to introduce Rakuma, a consumer-to-consumer marketplace mobile application, in the region.

In addition, tech giants such as Google (United States), Alibaba (China), Microsoft (United States) and NTT Communications (Japan) have also been establishing data centres in Singapore to cope with rising demand: Facebook (United States) is building a \$1 billion centre, and Google is investing \$350 million in its third facility. Equinix (United States), a major global data centre provider, also opened a facility in Singapore in 2017¹⁵ and owns another facility in Indonesia. Expanding from its presence in Singapore, Alibaba opened new centres in Malaysia in 2017 and in Indonesia in 2018.

Digital firms are increasingly investing in digital capacity, either for their own use or to supply mobile network operators. For instance, Amazon and Facebook are involved in the Jupiter cable, connecting the Philippines to Japan and the United States.

In addition to the largest digital MNEs, ASEAN has attracted smaller digital companies from both developed and developing economies. Investments from American companies in 2017 include those of Grom Holdings, which acquired Top Draw Animation (a Manila-based software publisher); Qualys, which bought the software assets of 1Mobility (Singapore); and LongFin, which acquired Ziddu.com (an Internet portal operator) in Singapore. Japanese firms such as Transcosmos (an e-commerce provider) have expanded in ASEAN through collaboration and business alliances with local firms to serve Japanese customers. To operate in the region, Transcosmos uses platforms such as MetroDeal in the Philippines and Thailand, Hotdeal in Viet Nam, LeLong.my in Malaysia and Berrybenka in Indonesia, as well as e-commerce websites such as Lazada and Anchanto (an e-commerce fulfilment company) in Singapore. In Indonesia, MonotaRo has partnered with Sumitomo Corp (Japan) to launch a business-to-business e-commerce site for maintenance, repair and operations for pantry and office needs.¹⁶ Other Chinese digital companies have also been expanding their presence in ASEAN in recent years (e.g. JD.com).

4.4.3. Traditional MNEs

Technological innovation and digitalization are transforming the industrial landscape and disrupting traditional manufacturing processes, distribution and service delivery. New industries or new methods of operation relying on digital technology are challenging established systems (e.g. Internet shopping and advertisement, delivery platform apps, digital payment systems, ride-hailing services). Companies in ASEAN whose traditional businesses are being disrupted by digital development are responding by leveraging digital opportunities to increase business efficiency, access markets (e.g. Indonesian Lippo Group with MatahariMall.com), innovate and venture into emerging digital businesses such as e-commerce and fintech. As such, they are part of the digital economy.

Many of the large traditional MNEs, conglomerates or business groups, such as Ayala, Charoen Pokphand, JG Summit, Kuok, Lippo, San Miguel and Siam Cement, are well placed to make the most of digital opportunities because of their significant resources, diversified skills and extensive business networks. They use digital technology to improve and strengthen their business operations. For instance, the Shangri-La hotel chain, owned by the Kuok

Group, is using digital technology to facilitate room reservations. Digital technology has also helped the Thai Central Department Group to reach more customers through its own online e-commerce facility. It also acquired Zalora (an e-commerce fashion platform) from Rocket Internet in 2016 to strengthen its e-commerce activities and rebranded it as Looksi in 2017.¹⁷ Betagro (Thailand), operating feed mills and food manufacturing plants, distributes directly to customers through websites and third-party platforms (e.g. Lazada). Its traditional distribution method was through supermarkets.

Traditional MNEs are adapting to and taking advantage of digital opportunities in generally one of four ways. First, they set up a digital division and digitize internal systems and procedures to improve efficiency. Second, they use digital technology (e.g. e-commerce platforms and apps) as marketing tools (e.g. Salim, Aboitiz, JG Summit, Keppel) and to support market expansion (e.g. Lippo through MatahariMall, Ayala Corp through Zalora, Charoen Pokphand through Makroclick, Siam Cement Group through the Siam OMNI-Channel Programme). Third, they innovate or invest in new business areas such as in fintech (e.g. CIMB, Lippo, JG Summit, Siam Cement, Ayala Corp, Salim). They establish digital start-ups (e.g. Charoen Pokphand, Ayala Corp) and/or invest in third-party digital start-ups (e.g. Triputra, JG Summit), either directly or by setting up investment funds (e.g. Singtel through Innov8, Axiata through Axiata Digital Innovation Fund, Ayala through main subsidiary PLDT's Kickstart Ventures, Charoen Pokphand through Ascend, Lippo through Venturra Capital, Siam Cement through ADDVentures, Triputra through Northstar). Fourth, in the case of traditional ASEAN telecommunication MNEs, they invest and diversify their business to include more data-centric operations, digital solutions and downstream activities that use their telecommunication infrastructure and services. For instance, they invest in new digital businesses to expand their digital scope and their business portfolio. Singtel has made a number of strategic acquisitions in digital advertising, mobile platforms, managed security services, data management and analytic platforms. Similarly, Axiata acquired a 65 per cent stake in Suvitech, a Thailand-based IT solutions and service company. These two ASEAN telecommunication MNEs have also invested in digital start-ups. Singtel has stakes in ShopBack (an online cash-back rewards platform), in Carro (Southeast Asia's largest car marketplace), and Hungrygowhere.com (dining portal). Axiata has invested in Tripfez (a travel portal), Easyparcel (a parcel consolidator supporting e-commerce), Maideasy (a platform for hiring cleaners), Spot News (a localized news app), Easyuni (an education research platform) and Supahands (virtual assistant services).

Some examples of how traditional ASEAN MNEs or conglomerates have embraced the digital revolution to improve business efficiency and strengthen competitiveness are presented in the following paragraphs (see chapter 3 for descriptions of the business activities of these MNEs).

Lippo Group (Indonesia)

One of the core businesses of the Lippo Group is providing information and communication services. In addition to mobile phone services, it has a cable television unit and operates a TV news channel. It has also expanded into e-commerce and online banking operations. In retail, the Lippo Group established an e-commerce platform in MatahariMall.com (box 4.5).

It also repositioned its subsidiary PT First Media from a provider of cable TV services to an integrated telecommunication and multimedia business by shifting to the triple-play model, which covers television subscription services, high-speed broadband Internet services and data communication through a digital communication network.

Box 4.5. Lippo Group: MatahariMall

Matahari Department Stores entered the e-commerce arena in 2015 when the company signed a cooperation agreement with PT Global Ecommerce Indonesia, the parent entity of MatahariMall. The agreement is for MatahariMall to sell Matahari's exclusive brands on its e-commerce platform. In 2016, Matahari launched MatahariStore.com, the online arm and digital platform of Matahari Department Store, to reach underserved markets across Indonesia. MatahariStore.com will focus mainly on fashion retail, while its sister company, MatahariMall.com, being the e-commerce platform of Lippo, offers all other items, ranging from technological devices, home books to cosmetics. MatahariMall.com incorporates three retail businesses (i.e. hypermart, Matahari Department Store and Books & Beyond). Mataharistore.com offers a more fashion-oriented website and has seen orders grown two- to threefold since its launched.

The online operation is based on the online-to-offline (O2O) concept, which enables customers to shop online and collect the items offline (at the retailer's nearest delivery hub) – with features that allow customers to pay, receive and return products at any of the Mataharimall.com's 649 delivery hubs across Indonesia. MatahariStore.com can be accessed through a dedicated landing page on the company's website and through its online portal. The Group continues to invest in e-commerce activities.^a

Sources: Matahari, 2016 Annual Report and *Indonesia Investments*, "E-commerce in Indonesia: Many consumers look offline, buy online", 13 December 2017 (<https://www.indonesia-investments.com/news/todays-headlines/e-commerce-in-indonesia-many-consumers-look-offline-buy-online/item8410?>).

^aMacquarie Research, "Indonesia E-Commerce", 12 April 2017 (https://www.macquarieresearch.com/rp/d/r/publication.do?f=C&pub_id=7318216&file_name=IndonesiaEcommerce120417Re270473.pdf); Inside Retail Asia, "Matahari Department Store puts more money into e-commerce", 6 September 2017 (<https://insideretail.asia/2017/09/06/matahari-department-store-puts-more-money-into-e-commerce/>).

PT Link Net, another subsidiary, focuses on providing fixed cable network services, Internet and business management consulting services, and cable TV services in collaboration with PT First Media Television. The Lippo Group, through PT Link Net, continues to invest in new technology to help the Group expand in the digital economy business. The Lippo Group has also announced plans to get involved in digital payment systems through a bank it owns in Indonesia and later expand to Singapore. In February 2018, Lippo subsidiary Siloam Hospitals announced its partnership with BookDoc (Malaysia), an online platform that connects patients with health care professionals anytime and anywhere.¹⁸

In 2016, Grab (Singapore) teamed up with the Lippo Group to roll out a mobile payment platform in Indonesia, extending its reach beyond transport.¹⁹ The Group's Ovo.id, an e-money transfer company, and GrabPay's electronic money division formed the co-branded GrabPay, "powered by OVO". This was to leverage both companies' technology expertise and partner networks to co-develop the mobile payments platform.²⁰ In addition, the Lippo Group has invested in technology start-ups in ASEAN through Venturra Capital (table 4.5), an independent venture capital fund that it sponsors.

Table 4.5. Lippo Venturra investments in digital startups

Company	Industry	Country	Activity	Date of investments
Carro	Auto	Singapore	Online used car marketplace	13 June 2016
				22 March 2017
				14 May 2018
iPrice Group	E-commerce/shopping	Malaysia	Offers shoppers a wide selection of products and brands provided by hundreds of partners in Southeast Asia.	14 December 2015 19 December 2016 7 May 2018
Zilingo	Marketplace (Internet and mobile)	Singapore	Online marketplace	5 September 2016
				12 September 2017
				4 April 2018
Kaodim Group	Freight service, home services, professional services	Malaysia	Services marketplace in Southeast Asia, linking clients with professional service providers. Has presence also in Indonesia, Philippines and Singapore.	18 November 2015
				6 November 2017
Prenetics	Health	Hong Kong (China)	Genetic testing and digital health	4 December 2014
				16 March 2016
				17 October 2017
Kfit	Fitness and wellness	Malaysia	Access to fitness studios in Southeast Asia	1 February 2016
Fabelio	Furniture	Indonesia	Online furniture store	27 January 2016
Ruangguru	Education, payments	Indonesia	Education-based services that has over 6 million users	9 December 2015
Sociolla	Beauty and cosmetics	Indonesia	Marketplace and learning place for cosmetics	16 November 2015
Telunjuk	Big data search engine	Indonesia	Search engine and comparison portal	22 September 2015
Bridestory	E-commerce (wedding shopping)	Indonesia	Global wedding marketplace, connecting engaged couples with wedding professionals	5 March 2015
Tada	E-commerce, financial services, loyalty programmes	Indonesia	Advocacy engagement platform that helps businesses move from transactions to relationships, from customer to advocates	15 January 2015

Source: Crunchbase database.

Note: Some of these start-ups have expanded in other ASEAN Member States.

Salim Group (Indonesia)

First Pacific, based in Hong Kong (China), is a member of the Salim Group (Indonesia). The companies in the First Pacific group embrace digital opportunities in different ways (table 4.6, box 4.6).

Table 4.6. First Pacific: operations involving digital technology (Selected cases)

Main subsidiary	Location	Business operation	Description
Metro Pacific Investment Corporation	Philippines	Toll roads	Digital payments and electronic transactions on a toll road.
		Hospitals	Migration to electronic medical records, implementation of integrated information management systems and RFID-based systems to monitor patients in certain departments and improve billing and collection functions.
		Rail	Implementation of a comprehensive rehabilitation and modernization program for the LRT-1 system (Philippines), including upgrade of signalling systems.
Indofood	Indonesia	Nutrition	Strengthening of brand awareness and consumer affinity in 2017 by leveraging social media platforms. The platforms carry information and tips on parenting and early childhood nutrition and live chat opportunities with experts.
		Snack food	Increased focus on digital engagement with consumers such as a digital campaign for consumers to suggest new snack flavours.

Sources: First Pacific website, annual reports of respective companies and website.

Box 4.6. Voyager Innovations

In 2013, PLDT, through Smart Communications, established Voyager Innovations to deliver innovative digital solutions for new business streams and evolving business models. In 2015, Voyager (through FINTQ, its financial technology arm) introduced Lendr, a platform for digital lending. In September 2017, Voyager launched KasamaKA, a cost-efficient, convenient, secure and transparent shared services platform to help Filipinos access banking services. To encourage greater participation in the growing digital economy, Voyager has also expanded its free Internet platform.

In October 2017, Smart's app PayMayaa introduced PayMaya in Messenger, enabling users to access the payment app through the popular messaging service. PayMaya has also made available its scan-to-pay PayMaya QR at the payment counters of many large merchants.

In February 2018, PLDT and Smart launched its Most Valuable Partner (MVP) Rewards Program. Under this programme, PLDT, Smart and Sun customers earn reward points by paying their bills on time and loading their prepaid mobile phones. Points earned are converted to cash and placed in a virtual PayMaya prepaid wallet that customers can use to pay for online purchases. Members also have the option of getting a physical MVP Rewards Visa card linked to their PayMaya wallet, which they can use to pay when shopping or dining in about 37 million establishments worldwide.

Sources: First Pacific and PLDT websites, and company information.

^a PayMaya Philippines, Inc. (formerly Smart eMoney, Inc) operates mobile money and payments services. PayMaya Philippines Inc has also established brands such as PayMaya, a prepaid online payment app that enables the financially underserved to pay online without a credit card; PayMaya Business, the company's system solutions provider, which enables businesses to receive online and card payments; Smart Money, the world's first e-wallet linked to a mobile phone; and Smart Padala, a remittance network of over 15,000 agents across the country. PayMaya Philippines is a subsidiary of Voyager Innovations, the digital innovations company of PLDT and Smart. (Source: <https://paymaya.com/about/>)

Sinar Mas (Indonesia)

Through its subsidiary BSD, Sinarmas Land Ltd is developing the Digital Hub on 26 hectares strategically located to the south of BSD City's Green Office Park in Jakarta. It aims to transform the BSD park into a smart city and a home to IT start-ups, research and development centres, software programmers and designers. BSD partnered with Huawei Technologies (China) to equip the Digital Hub with fibre-optic connections to support high-speed Internet access and provide high-quality cloud services. It is also developing an IT application for BSD City residents that can be used for mobile payments or an e-wallet, a customer loyalty programme, a community platform and other digital applications.

Golden Agri-Resources, another subsidiary, has a technology investment programme to source innovative technologies related to its core businesses. The investment objectives focus on developing transformational solutions in agriculture, food and industrial biotechnology, plantation development and management technologies (including those relating to precision agriculture and robotics), end-to-end distribution, logistics and marketing technology (including mobile-based solutions and e-commerce payments) and the use of big data analysis.

Triputra Group (Indonesia)

The Triputra Group is also adapting and adjusting to the development of the digital economy. First, it has adopted a Group-wide IT system to improve efficiency and productivity, better

connect business operations (e.g. communication and finance) and quickly respond to the needs of its plantations, mines and production facilities. Second, it has invested in start-up ventures, both directly (e.g. Go-Jek (Indonesia) in e-commerce and ride-hailing activities) and through venture capital and private equity companies such as Northstar (Singapore), which invests in growth and digital companies in Indonesia and other countries in Southeast Asia (AIR 2016).

Axiata Group (Malaysia)

Axiata is both an enabler and a player in digitalization, as its core business is to provide digital communication services to consumers. It owns and operates infrastructure that enables digital connectivity and facilitates digital-based businesses such as e-money and mobile insurance. The digital revolution provides an opportunity for the group to expand its geographical reach and work in different segments of the digital value chains in ASEAN. Through the more than \$25 million²¹ Axiata Digital Innovation Fund (established in Malaysia in 2014), the Group supports innovation and the growth of the Malaysian digital ecosystem. The fund has invested in 12 digital companies, which include Tripfez, Easyparcel, Maideasy, Spot News, Easyuni and Supahands.²² It has also established the \$5 million Smart Axiata Digital Innovation Fund in Cambodia and the \$15 million Dialog Axiata Digital Innovation Fund in Sri Lanka.

CIMB Group (Malaysia)

The CIMB Group has embarked on its own digital transformation in a number of key areas. They include the following:

(i) Digital offerings

In 2008, CIMB launched its mobile banking service as part of its existing Internet portal, CIMB Clicks.²³ In February 2018, CIMB FinTech assisted in the upgrading of CIMB's mobile banking app EVA by adding a spending analyser and a natural-language conversational capability, making chat-banking more intuitive.

(ii) Strategic partnerships in digital payment services

The Group has established several strategic partnerships to enhance its presence in the digital payments space. Its subsidiary Touch 'n Go, Malaysia's largest e-wallet provider, collaborated with Ant Financial (China) to create an online and offline payment platform. CIMB Thai has also partnered with AIS Thailand, a mobile service provider, to build a suite of new banking solutions on smartphones called Beat Banking.

(iii) CIMB FinTech

In 2017, CIMB set up its Fintech Unit as a stand-alone business unit to spearhead the Group's digital aspirations and develop innovative banking solutions using financial technology.²⁴ CIMB Fintech's key projects currently under way include building a mobile-centric digital banking platform in Viet Nam, which will be used as a template for CIMB to launch into other markets, including the Philippines.

Kuok Group (Malaysia)

The Kuok Group and its subsidiaries in different industries such as Shangri-La Group, Wilmar and Kerry Logistics are addressing digital opportunities through different initiatives. For instance, the Shangri-La hotel chain is embracing digital technology to better serve clients, conducting digital marketing and recruitment as well as improving its online reservation system. It uses social media technology (e.g. Weibo, LinkedIn, Facebook and other social media channels) to reach out more effectively to prospective employees. The introduction of Careers WeChat extended and broadened the Group's external talent pipeline. In addition, Wilmar's oil palm plantations are all digitized so that productivity can be tracked, from planting to harvesting to loading to milling to shipping. Kerry Logistics has developed KerriVISION, a real-time Internet-based solution that provides personalized support to customers by tracking inventory, freight, purchase orders and deliveries.

Wilmar has also instituted its own internal digitization measures through a number of approaches. It fosters a culture of innovation by exploring the use of new digital technologies such as blockchain technology, artificial intelligence and the Internet of Things to improve operational efficiency. Wilmar continues to implement its Cloud First strategy to support increasing numbers of operations running on mobile devices. Data analytics are deployed across the Group's operations to process raw data, with the purpose of finding patterns and drawing conclusions by applying an algorithmic or a mechanical process to derive insights and support predictive and prescriptive decisions. Other digital accelerator programmes of the Group include connecting planning tools to the cloud to facilitate collaboration among planners in different locations, rapid development platforms, robotic process automation to take over repetitive manual tasks and radio frequency technologies to automate weighbridges in manufacturing plants and machine spare parts tracking. The Group has also established an Information Security Management Framework that aligns with international standard to manage cybersecurity risks.

Kerry Logistics is also capitalizing on the rapid e-commerce growth in the region by strengthening its facilities and providing logistics and delivery services. The Kerry Logistics Group plans to expand into other ASEAN markets such as Malaysia and Viet Nam.

Aboitiz Group (Philippines)

The Aboitiz Group of companies are using digital technology to improve corporate efficiency. For instance, the Aboitiz Talent Management System, a cloud-based platform, is the group's strategic digital tool for attracting and retaining the best talent and navigating the business landscape within the business group. The Group established a digital management team in 2016 to kick-start the group-wide digital revolution, driven by four key building blocks: workplace transformation, interactive customer experience, integrated business operations and business model innovation. It has launched an intranet portal (Agora), its first initiative on digital transformation.

Union Bank

Petnet, a Union Bank subsidiary of the Aboitiz Group offering a variety of cash-based services including remittances, currency exchange and bill payment, is strengthening its retail brand by making its business more accessible to, and convenient for, customers through the Pera Hub mobile application. Users of the application can explore other products and services and can conduct transactions, including monitoring loyalty card points. Union Bank is also strengthening its service for helping SMEs maximize e-commerce innovation in the digital marketplace for business development, enterprise partnerships and thought leadership through its Ureka Forum (an e-commerce circuit for SMEs). The bank has actively been looking for possible partnerships with fintech start-ups that have the potential to grow further. In early 2018, it partnered with Acudeen Technologies, a fintech start-up founded by two Filipinos and registered in Singapore that offers an accounts receivable discounting platform. The facility helps SMEs secure funding and brings funders (high-net-worth individuals and institutions) into the platform.

Ayala Group (Philippines)

The Ayala Group's subsidiaries have embraced digital opportunities in different ways because of their different business operations. They include the following:

Bank of the Philippine Islands (BPI)

In 2016, BPI was one of the first banks in the Philippines to deliver an image-based check-clearing service, enhancing the speed and accuracy with which the bank processed payments to clients. BPI also launched the first Security Operations Centre in the Philippines, to integrate physical and technological security (e.g. transactional security). The bank expanded its ATM network to make banking more convenient for its customers. BPI provides more secure cash withdrawals for its depositors through the ATM withdrawal notification system, which alerts cardholders by email or SMS of withdrawals greater than a set amount. The bank further strengthened its online and e-transaction facilities in 2016 with mobile banking. Customers can also resolve queries through the bank's 24-hour contact centre by phone, SMS, email, social media and the mobile app Viber.

Globe Telecom

Globe Telecom has also invested in other digital activities such as fintech (e.g., mobile money, credit scoring, online lending) to leverage its brand and infrastructure. Globe Fintech Innovations has partnered with Ant Financial Services (China), a leading digital financial services provider, to reach the unbanked and underbanked in the country. Globe's GCash mobile application enables subscribers to pay for products and services from an e-wallet on a mobile phone. Through Globe Telecom, Ayala has partnered with Ant Financial on an e-payments service. In 2017, through Alipay, Ant Financial acquired 45 per cent of Mynt, Globe's wholly owned fintech start-up that handles payments, remittances and loans. Globe holds 45 per cent and Ayala Corporation holds 10 per cent. Alipay enables merchants to receive cashless payments

without point-of-sale terminals. To accept payments, merchants need only a card or sticker with a QR code. The system uses Globe's mobile wallet service, GCash.

Kickstart Ventures, a venture capital firm wholly owned by Globe Telecom, provides funding to 35 digital technology firms in ASEAN (e.g. Indonesia, the Philippines) and elsewhere (e.g. Canada, the United States). At least 17 per cent of Kickstart's deployed funds have been invested in "impact" start-ups focusing on technology in education, health and finance. Another emerging business is AdSpark (wholly owned by Globe Telecom), an innovative, mobile-first, data-driven firm offering digital marketing solutions. AdSpark has entered into strategic partnerships with Wootag (Singapore) and Tracx (United States) to offer the Philippine advertising market intensive digital analysis.

Ayala Healthcare Holdings invested in the early-stage start-up Wellbridge Health, Inc, which owns and operates MedGrocer, an e-pharmacy and medicine benefits management service. Customers can order medicines online and have them delivered. AC Health also partnered with Maria Health, a Philippine start-up that aims to provide SMEs with easier access to health care coverage. The deal is expected to enhance FamilyDOC, a community-based clinic that offers primary care, a diagnostic facility and a pharmacy. FamilyDOC has also partnered with Lifetrack Medical Systems, a tele-radiology service provider, to offer radiology diagnostic services using digital technology.

The Ayala Group has also ventured into online retailing. In 2017, to expand its shopping mall business, it partnered with Global Fashion Group, the parent company of regional e-commerce operator Zalora. Ayala owns 49 per cent of Zalora Philippines, which is helping the Group diversify into fashion e-commerce.

JG Summit Group (Philippines)

The digital economy has brought new opportunities for the group. JG Summit and Oriente (Hong Kong, China) established a fintech venture in the Philippines in 2017 to address financial exclusion, or underbanked consumers and small businesses. The venture involves developing a digital financial services marketplace for loans.²⁵ JG Summit also joined a \$550 million funding round in May 2016 in Sea Ltd (Singapore), an online gaming firm, and in Shopee, an e-commerce platform. The company invested \$25 million in Sea Ltd to finance that company's growth plans.²⁶

JG Summit subsidiaries are adapting their operations, developing innovative products and services, and implementing technology-based practices to meet the changing needs of consumers and businesses in the digital economy. For example, Universal Robina Corporation (a subsidiary) incorporated digitalization into the company's value chain processes. It implemented an integrated digital-based promotion strategy whereby millennial consumers could become brand ambassadors and benefit from synergies with other retail partners (such as Robinson's Retail Business). Robinsons Bank (another subsidiary of JG Summit) re-engineered its cheque-imaging clearing system and document management system to improve turnaround time, increase overall efficiency and minimize risks. The bank embarked on document digitization to control creation and authentication, manage storage and facilitate convenient retrieval.

Cebu Pacific (another subsidiary) has partnered with Robinsons Bank to develop Internet-based and digital products. One catalyst driving its growth is its use of both the Internet and physical structures to gain market access. Robinsons Bank developed an innovative collections solution for the underserved market of Cebu Pacific. It facilitated collections through the Easy Pay card, eliminating the need for customers to send proof of payment to replenish credit lines and reducing the wait time from five hours to less than five minutes.

San Miguel (Philippines)

The San Miguel Group introduced digital technology to help strengthen the group's operation and to reach out to consumers. Digital technology (social media, Internet) has been used to increase connectivity between subsidiaries and to support better and faster flow of information within the Group.

Singtel Group (Singapore)

The Singtel Group contributes to digital development in Singapore and in countries where it has investment or established strategic partnership. It is an enabler and operator of digital infrastructure and other digital services. Singtel and its regional associates are constantly innovating and bringing digital technology to meet increasing demand of digital lifestyles.²⁷

Transformation and digital businesses

Digitalization of the Group are achieved through three waves: (i) transformation of the telco operations (Singtel, Optus and its regional associates) from sms-centric to digital/data centric, (ii) involvement in new digital businesses and (iii) investing in digital technology-related start-ups. Although the Group's transformation has been carried out already, the Group continues to upgrade, including adding on to its existing technology infrastructures (software and hardware) to maintain its competitive edge and to serve the growing demand of consumers for digital/data-based services. For example, Singtel is now working on the 5G technology by deploying key pre-5G technology such as massive MIMO and NB-IoT.²⁸

Corporate venture arm

Innov8 is Singtel's corporate venture arm, which supports investing in digital start-ups. It focuses investments in start-ups with technologies and solutions that can lead to quantum changes in network capabilities, next generation devices, digital content services and enablers to enhance customer experience. Since its establishment in 2010, Innov8 has invested in over 70 companies globally in cyber security, digital marketing, mobile video and big data. Innov8 has also supported local Singapore start-ups, which include Shopback, an online cashback rewards platform, and Carro, Southeast Asia's largest car marketplace.²⁹ Some of Singtel's regional associates have also their own initiatives to support digital start-ups. For example, Telkomsel launched in July 2018 the "Telkomsel Innovation Center" to invite innovators and collaborate with them to develop the IoT ecosystem in Indonesia.³⁰

Siam Cement Group (Thailand)

The Siam Cement Group (SCG) has relied on digital innovation to increase competitiveness, improve market access and enhance coordination among its companies. Some of the digital applications include the following:³¹

- SCG established ADDVentures, a corporate venture capital firm, to invest in start-ups relating to SCG's businesses. Examples include start-ups that focus on digital and logistics businesses which could support SCG's logistics networks and operations (e.g. offering more convenient and faster service throughout the ASEAN region).
- SCG set up the Open Innovation Center to collaborate with start-ups worldwide in various sectors to develop high-capability innovation materials, sensors and the Internet of Things (IoT).
- SCG has adopted digital technology to enhance its business efficiency, such as automation and robotics in production and plant maintenance (e.g. automated storage and retrieval system, and the IoT in inventory management).
- The SCG Packaging Business Group relies on data virtualization to improve the efficiency of its value chains. The Group provides technology to help its customers track purchase orders in real time to facilitate advance planning.
- The SCG Cement Building Materials Business Group is planning to roll out the SCG Active OMNI-Channel Programme in 2018. The programme will be an e-commerce and digital platform designed to reach the new generation of consumers, who are increasingly purchasing products and services online. The omni channel is to enhance SCG's current distribution network.

4.4.4. Digital start-ups

The expansion of the digital economy in ASEAN has given rise to, and been fuelled by, the growing number of digital or tech start-ups, which are adding to the pool of SMEs and digital companies in the region. "Digital start-ups" refers to newly emerging entrepreneurs, innovators and small companies undertaking digitally enabled business ventures with plans to grow them quickly. They start small and raise funds from venture capital firms to develop their products or businesses, and some also do so to expand overseas and benefit from network effects. As of August 2018, there were more than 13,500 tech start-ups across ASEAN, almost two thirds of which were based in Singapore (34 per cent) and Indonesia (31 per cent).³² Besides contributing to digital innovation, these start-ups are advancing regional connectivity through their cross-border, intra-ASEAN operations and investments. Some have developed into large regional players (e.g. Grab, Go-Jek).

Digital start-ups in ASEAN have been attracting increasing amounts of venture capital and private equity funding. The 50 largest ASEAN digital companies in terms of funding raised had attracted \$13.8 billion worth of capital as of June 2018, as compared with only \$1 billion in 2015. This capital – more than double the 2017 cash holdings of the 10 largest ASEAN telecommunication companies – has supported the growth and regional expansion of these companies (table 4.7).

Table 4.7. The 50 most-funded digital start-ups in ASEAN, 2018

Rank	Name	Home country	Industry	Funding raised	Presence in other ASEAN countries
1	Grab	Singapore	Transport, food delivery and payment solutions	\$5.8 billion	Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam
2	Sea (Garena)	Singapore	Consumer Internet platform	\$2.0 billion	Indonesia, Philippines, Malaysia, Thailand, Viet Nam
3	Tokopedia	Indonesia	Online marketplace	\$1.1 billion	None yet
4	Jobstreet	Malaysia	Recruitment	\$586 million	Indonesia, Philippines, Singapore, Viet Nam
5	Go-Jek	Indonesia	Transport	\$585 million	In the process of expanding to other ASEAN countries
6	Traveloka	Indonesia	Travelling	\$500 million	Malaysia, Philippines, Singapore, Thailand, Viet Nam
7	AirTrunk	Singapore	Wholesale data centres	\$307 million	None yet
8	Bigo	Singapore	Broadcasting, digital media	\$272 million	Malaysia, Thailand
9	iflix	Malaysia	Entertainment industry, video streaming	\$223 million	Philippines, Singapore, Thailand
10	Trax Image Recognition	Singapore	Image recognition	\$208 million	Malaysia
11	MatahariMail	Indonesia	E-commerce platforms	\$142 million	None yet
12	Carousell	Singapore	Marketplace	\$120 million	Indonesia, Malaysia, Philippines
13	MyRepublic	Singapore	Telecommunications	\$112 million	Indonesia
14	PT Indo Lotte Makmur (iLOTTE)	Indonesia	E-commerce platforms	\$100 million	..
15	HOOQ	Singapore	Digital	\$95 million	Indonesia, Philippines, Thailand
16	Ninja Logistics (Ninja Van)	Singapore	Postal and courier services	\$87 million	Indonesia, Malaysia, Philippines, Thailand, Viet Nam
17	TenX	Singapore	Fintech	\$81 million	None yet
18	Tessa Therapeutics	Singapore	Biopharmaceuticals	\$80 million	Malaysia
19	SunSeap	Singapore	Clean energy	\$80 million	Cambodia, Malaysia, Philippines, Thailand, Viet Nam
20	Zilingo	Singapore	Marketplaces, mobile commerce	\$79 million	Indonesia, Malaysia, Thailand
21	M17 Entertainment	Singapore	Social media platforms	\$75 million	Indonesia, Malaysia
22	Carro	Singapore	Car marketplace	\$72 million	Indonesia, Thailand
23	Mobile Credit Payment	Singapore	Payments and remittance	\$67 million	Indonesia, Malaysia, Thailand
24	aCommerce	Thailand	E-commerce for tools and services	\$65 million	Indonesia, Malaysia, Philippines, Singapore
25	MOL (Money Online)	Malaysia	Payments and remittance	\$61 million	Indonesia, Philippines, Singapore, Thailand, Viet Nam
26	Qtum	Singapore	Enterprise application	\$52 million	..
27	KyberNetwork	Singapore	Fintech	\$52 million	..
28	Advance.AI	Singapore	Cybersecurity	\$50 million	Indonesia
29	Singapore Life (Singlife)	Singapore	Insurance tech	\$50 million	..
30	Art of Click	Singapore	Mobile advertising	\$45 million	Indonesia, Philippines, Thailand
31	oBike	Singapore	Transportation	\$45 million	Indonesia, Malaysia, Thailand
32	Tiki.vn	Viet Nam	Retail, e-commerce	\$44 million	None yet
33	PT MCash Integrasi	Indonesia	Internet of Things	\$43 million	None yet
34	aelf	Singapore	Cloud infrastructure	\$40 million	..
35	Cogito	Philippines	Cloud infrastructure, SAS	\$37 million	Singapore
36	iCar Asia	Malaysia	Transport	\$37 million	Indonesia, Thailand
37	Wanchain	Singapore	Fintech	\$36 million	None yet
38	Pundi X	Indonesia	Payments and remittance	\$35 million	Singapore
39	Frontier Digital Ventures	Malaysia	Classifieds	\$34 million	Myanmar, Philippines, Viet Nam
40	Funding Societies	Singapore	Fintech	\$32 million	Indonesia, Malaysia
41	Paktor	Singapore	Online dating, social networking	\$32 million	None yet
42	Republic Protocol	Singapore	Fintech	\$31 million	None yet
43	Zimplistic (Rotimatic)	Thailand	Consumer electronics, robotics	\$30 million	..
44	Pomelo Fashion	Thailand	Fashion, e-commerce platforms	\$30 million	Indonesia, Singapore
45	FinAccel (Kredivo)	Indonesia	Fintech	\$30 million	Singapore
46	Cloud Alliance	Singapore	Development platforms	\$30 million	..
47	Electrify	Singapore	Energy efficiency	\$30 million	Malaysia, Philippines, Thailand
48	tryb	Singapore	Fintech	\$30 million	..
49	C88 (CekAja, eCompareMo, Premiro)	Singapore	Fintech	\$28 million	Indonesia, Philippines
50	Sale Stock	Indonesia	Fashion	\$27 million	Singapore

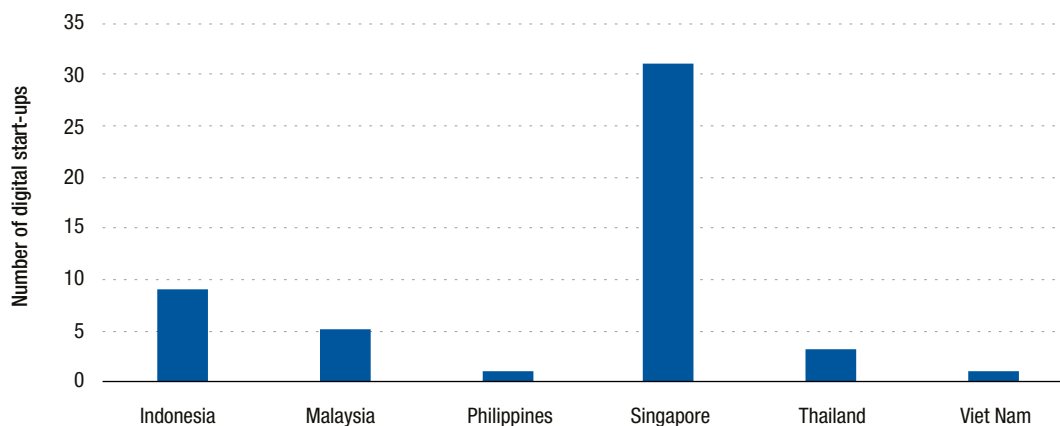
Sources: Tech-in-Asia database (extracted August 2018) and company websites.

Three companies – Grab (Singapore), Sea Ltd (Singapore) and Tokopedia (Indonesia) – absorbed about 65 per cent of the \$13.8 billion raised by the 50 largest-funded digital companies. These are three of the five “unicorns”³³ – start-ups valued at more than \$1 billion – currently based in the region with the other two being Go-Jek (Indonesia) and Traveloka (Indonesia). Besides venture capital and private equity funding, the largest start-ups have all attracted significant capital from other international investors. Chinese technology companies are particularly active investors in major ASEAN start-ups: Alibaba has stakes in Lazada (Singapore) and Tokopedia (Indonesia), Tencent in Go-Jek (Indonesia) and Sea (Singapore), Didi Chuxing in Grab (Singapore); and JD.com in Traveloka (Indonesia).

In addition, these 50 start-ups are unevenly distributed across the region: 62 per cent are based in Singapore, 18 per cent in Indonesia and 10 per cent in Malaysia (figure 4.11). Singapore has become a start-up hub owing to its more developed digital ecosystem, its competitive investment landscape and the presence of more venture capital firms and private equity companies (*AIR 2016*). Other ASEAN countries are catching up, however, with multiplying incubator programmes, government initiatives and increasing attention from venture capitalists. Indonesia, for instance, is home to a number of successful e-commerce companies on the list, given its large domestic market and rapid penetration rate for digital technology (e.g. mobile phones).

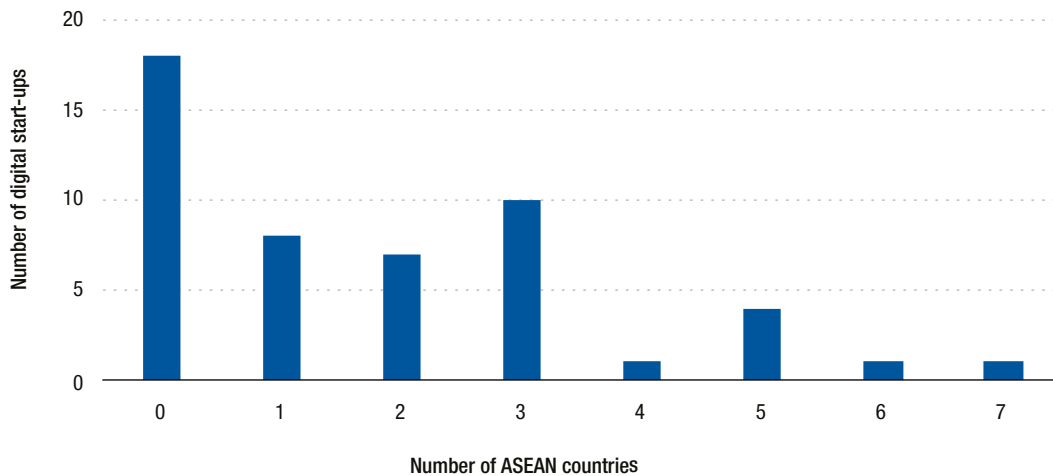
These top 50 start-ups are rapidly expanding beyond their home countries. Some 64 per cent have a presence in at least one other ASEAN country, with 34 per cent in three countries or more (figure 4.12), even though many of these companies are less than a decade old. Grab (box 4.7), Traveloka and Carousell (Singapore), for instance, were founded in 2012, and they already have operations in seven, five and three other ASEAN countries, respectively. Ninja Van (Singapore), founded in 2014, is present in five ASEAN countries.

Figure 4.11. The 50 most funded ASEAN digital start-ups: headquarters distribution, 2018 (Number)



Source: Based on table 4.7.

Figure 4.12. The 50 most funded ASEAN digital start-ups: presence in number of ASEAN countries, 2018 (Number)



Source: Based on table 4.7.

Box 4.7. Grab's regional expansion

Grab, valued at \$6 billion, is Southeast Asia's largest company in land transportation and one of the most valuable start-ups in the region. Launched as a taxi-booking mobile app in Malaysia in 2012, it has since expanded its portfolio of services, as well as its regional footprint. Grab is headquartered in Singapore and now operates in eight ASEAN countries. Its ride-hailing business has expanded beyond taxis to other modes of transport including bicycles, motorcycles, buses and tuk-tuks, and it offers different service models, from car-pooling to rentals. It has also expanded across the value chain to logistics – delivering food, small parcels and documents – and to payments, with an in-app rewards system, an e-wallet and a fintech platform offering loans and insurance. As of January 2018, it had held 11 rounds of capital raising, ranging from \$5.3 million in 2013 to \$2 billion in 2017. Many of the investors include venture capital companies and banks from outside the region. Three global automobile manufacturers have also invested, along with Didi Chuxing, the Chinese ride-sharing company.

Grab has made significant investments, including \$700 million in Indonesia, where it opened an R&D centre in Jakarta and acquired Kudo, Indonesia's leading e-commerce platform. It has also acquired Uber's business in the eight ASEAN countries where it was present. This acquisition included Uber Eats, to grow Grab's food delivery and mobile wallet services.

The company partners with more than 930,000 drivers who earn an income by providing 2.5 million rides a day. In addition, Grab offers additional transportation and logistics options in all its markets. It also allows unserved and unbanked customers to take online payments, including from tourists.

Sources: Grab and media news.

This cross-border expansion is often driven by the search for economies of scale and network effects. The ability to raise funds, the establishment of popular digital platforms or technology at home and the acquisition of other start-ups have underpinned their rapid expansion (e.g. ride-hailing companies such as Grab (Singapore) and Go-Jek (Indonesia)). Go-Jek, for instance, acquired PT Midtrans, one of Indonesia's largest online payment services, in 2017. Untapped market opportunities, infrastructure support and industry development weigh on the choice of destination for regional expansion. The regional expansion of digital start-ups is helping strengthen intraregional investment and connectivity through commerce and digital operations (box 4.8).

At the same time, some of the largest well-funded digital start-ups in ASEAN have not yet established a foreign presence. Some home markets are big enough to sustain their operations for some time (e.g. Indonesia). Many start-ups are also able to sell services in other ASEAN countries without establishing a physical presence, thanks to standardized applications or Internet platforms. Fintech companies such as Smartkarma (Singapore) and Tryb Group (Singapore), for example, operate across the region but do not yet maintain a physical presence in other ASEAN countries. In addition, some industries rely on business models that are not easily or quickly replicated elsewhere. For instance, MatahariMail (Indonesia), which operates in the retail sector, enjoys competitive prices thanks to the strong relationships it has developed with vendors, its large domestic customer base and the economies of scale it offers, as well as its understanding of local tastes and consumer behaviour in Indonesia. In terms of activity,

Box 4.8. aCommerce

Established in Thailand in 2013, aCommerce is a leading e-commerce enabler in ASEAN. The company delivers localized retail, distribution and marketing solutions for over 260 brand clients. It provides end-to-end e-commerce technologies and solutions, including performance marketing, channel management, webstore design and operations, content production, order fulfilment and warehousing, delivery and logistics, and localized customer care. The company also offers data-driven demand-generation products, such as EcommerceIQ, ReviewIQ, BrandIQ, ChannelIQ and CustomerIQ, to help brands optimize their e-commerce business.

The company has grown rapidly from a start-up to a medium-sized enterprise that serves global brands such as Adidas (Germany), HP (United States), Unilever (United Kingdom and Netherlands), Samsung (Republic of Korea), Nestlé (Switzerland), L'Oreal (France), Philips (Netherlands) and Mars (United States). Outside Thailand, it operates in Indonesia, Malaysia, the Philippines and Singapore, and is planning to expand to other countries. It has opened five offices and 16 fulfilment centres across these ASEAN countries, and employs more than 1,200 people.

The company has attracted a total of \$96.5 million in investments from industry leaders such as KKR's Emerald Media (United States), BlueSky (Australia), DKSH (Switzerland), Inspire Ventures (Thailand), Sinar Mas (Indonesia) and NTT Docomo (Japan).

Sources: aCommerce and Bittermann (2018).

almost half of the top 50 start-ups are involved in either e-commerce or fintech (figure 4.13).

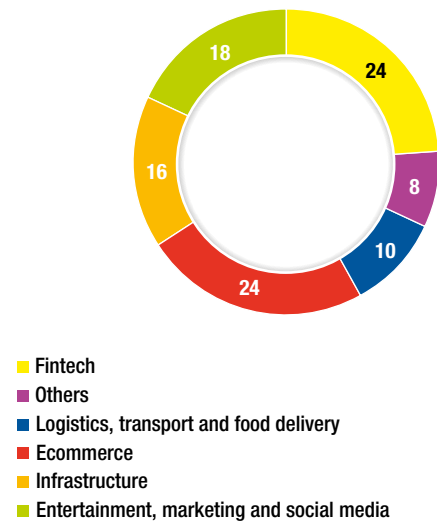
Some e-commerce start-ups have grown rapidly and have also ventured rapidly into neighbouring countries to grow. Some of these start-ups include the following (see also tables 4.7 and 4.9 on digital and fintech start-ups):

Carousell (Singapore), established in 2012, is a mobile classified marketplace and has grown to 19 cities in Indonesia, Malaysia and the Philippines. It uses digital technology to expand rapidly to neighbouring markets and grows by acquiring strategic start-ups. Carousell is backed by leading international venture capital firms such as Sequoia India, Rakuten Ventures (Japan), 500 Startups (United States) and Golden Gate Ventures. In May 2018, it completed a series C (late-stage venture) capital round, raising \$85 million from investors such as EDBI (Singapore), DBS Bank (Singapore) and 500 Startups (United States). As of May 2018, it had raised \$282 million and employed 250 people. Carousell's

quick rise to become a top regional peer-to-peer mobile marketplace is attributed to its acquisition of leading domestic marketplace platforms in ASEAN. In 2015 and 2016, it made a number of acquisitions such as (i) WatchOverMe, a Singapore-based personal safety app, and its entire engineering team; (ii) Caarly, a Singapore mobile-first used car marketplace and dealership tool, expected to help Carousell improve its used car classifieds and bring car dealerships onto its platform;³⁴ and (iii) Duriana, a Malaysia-based mobile classifieds start-up. The deal also gives a significant boost to Carousell in the Philippines, where Duriana has built a credible presence. The acquisition added over 600,000 Duriana users to the Carousell platform, boosting its global classifieds marketplace with 57 million listings and over 23 million items sold as of the fourth quarter of 2016.³⁵

Pomelo (Thailand) was established in 2013 as a fashion e-commerce start-up and has expanded rapidly. Pomelo has raised \$32 million through five funding rounds and is backed by venture capital firms such as Jungle Ventures (Singapore), 500 Startups (United States), Hong Leong Bank (Malaysia), Lombard Investments (United States) and JD.com (China). In August 2018, Pomelo announced it was expanding to Malaysia, with enhanced delivery services and multiple payment options such as cash-on-delivery. It is also launching 700 drop-off locations all over Malaysia, with plans to expand to nearly 2,000 locations, to allow easy returns by customers. In addition to Thailand and Malaysia, the Pomelo brand also has a presence in Singapore and Indonesia.

Figure 4.13. The top 50 most funded digital start-ups: distribution by industry, 2018 (Per cent)



Source: Based on table 4.7.

Iflix (Malaysia), founded in 2014, is an Internet TV service provider operating in Indonesia, the Philippines and Thailand, as well as in the Middle East and Africa.³⁶ Iflix has raised \$298 million through four successful funding rounds, including \$133 million in its latest series C (late-stage venture) round in August 2017. It is backed by venture capital firms such as European media giant Sky (United Kingdom), Emtek Group (Indonesia), Jungle Venture (Singapore), PLDT (Philippines), Hearst Communications (United States), Evolution Media (United States) and EDBI (Singapore).

Traveloka (Indonesia), started in 2012, is one of the fastest-growing travel tech companies in ASEAN. It offers services through its mobile app and website and has partnered with several travel-related services. The start-up has expanded to Malaysia, the Philippines, Singapore, Thailand and Viet Nam. It offers a secure payment system with more than 40 payment options, an easy user experience and a 24/7 call centre for local customers. Its mobile app has been downloaded more than 30 million times.³⁷ Traveloka has conducted four funding rounds, raising more than \$500 million. Companies such as Expedia (United States), Sequoia Capital (United States), JD.com (China) and East Ventures (Japan) have invested in Traveloka.

Tokopedia (Indonesia) is an e-commerce marketplace that supports small retailers and large companies in selling their products in Indonesia. It has received funding from major venture capital firms such as SoftBank (Japan), Sequoia (United States), Beenos Partners (Japan), East Ventures (Japan) and, recently, investment from Alibaba (China).

Logivan Technologies (Viet Nam), started in 2017, provides technology solutions to help businesses in Viet Nam find and manage trucks through an online platform. The platform also connects truck, car and other motor vehicle service suppliers and owners with potential and existing clients. Established a year ago, Logivan has already raised \$2.4 million through two funding rounds and is backed by Insignia Ventures Partners (Singapore), VinaCapital Investment Management (Viet Nam) and Ethos Partners (United Kingdom).

4.4.5. Fintech companies

Like e-commerce start-ups, fintech start-ups are growing rapidly in number and receiving growing attention from venture capital firms and large (digital and non-digital) companies. These start-ups deal with financial technology and financial solutions, including e-payment systems.

Although still in its infancy, the fintech industry is growing rapidly in the ASEAN region. Over two thirds of ASEAN fintech start-ups are less than five years old (Ernst and Young 2018), and the industry had raised \$3.2 billion worth of capital as of 2017 – about 40 per cent of all start-up funding in the region.³⁸ The 50 most-funded ASEAN fintech companies alone raised over \$1.1 billion as of 2017 (or 34 per cent of all fintech start-up funds raised as of last year), attracting interest from venture capital firms from the region (mostly Singapore), as well as the United States, Japan, China and countries in Europe. Fintech investments in ASEAN have increased annually, from \$190 million in 2015 to \$252 million in 2016 and \$338 million in September 2017 (Ernst and Young 2018).

The significant penetration of smartphones and local consumers' increasing confidence in banking through digital devices are major factors underpinning the expansion of the fintech sector in ASEAN (United Overseas Bank 2017). Although ASEAN start-ups dominate the industry in the region (in numbers), investment opportunities have attracted foreign fintech companies to expand in the region. Alipay (China), Transferwise (United Kingdom), Stripe (United States), Avaloq (Switzerland), Ripple (United States), Strands (Spain) and TradelX (United Kingdom) all operate in ASEAN, contributing to the growing competitiveness of the industry. Fintech companies from Japan (table 4.8) and the Republic of Korea are also increasing their investment in ASEAN. Chinese technology and fintech companies were active investors in ASEAN in 2017.

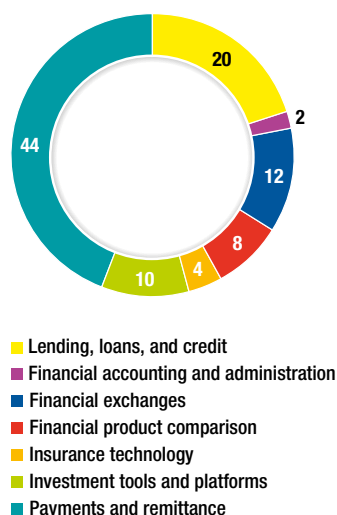
Foreign companies have entered the ASEAN fintech industry through greenfield investment, acquisitions, business alliances and partnerships. For instance, Ant Financial (a member of the Alibaba Group) operates in various ASEAN countries through its investments in Ascend Money (Thailand), Mynt (Philippines) and M-Daq (Singapore), as well as its partnerships with Emtek (Indonesia) and Fave (Singapore). Ant Financial is part of a joint venture with Touch 'n Go (Malaysia) and has acquired HelloPay (Philippines). It has also invested in a number of start-ups

Table 4.8. Japanese fintech activities in ASEAN

Name	Activity	Geographical presence/ location
Credit Saison	A credit service company. Established a subsidiary in Singapore in 2014 that subsequently established business networks in Cambodia, Indonesia, Singapore and Viet Nam and plans to expand to other ASEAN countries by replicating the financial infrastructure system it established in Japan.	Cambodia, Indonesia, Singapore, Viet Nam
Liquid Inc	On the strength of its biometric technology, established a joint venture with Salim Group (Indonesia) in 2016 to develop a next-generation authentication platform that uses biometric features.	Indonesia
GMO Internet Group	Through its subsidiary Payment Gateway, Inc (one of Japan's largest payment service providers), acquired a substantial stake in Macro Kiosk Group (a leading enabler of end-to-end mobile payment, authentication, notification and enterprise mobility solutions) in 2016.	Malaysia
NTT Data Corp	Through NTT Data Asia Pacific Pte Ltd, based in Singapore, acquired iPay88 Sdn Bhd (Malaysia), an online payment service and payment solution provider in 2015.	Malaysia
Chaintope Inc	A blockchain technology development company. Established a subsidiary in Malaysia in 2017.	Malaysia
Global Mobility Service	A fintech and IoT service company founded in 2013. It established a presence in the Philippines in collaboration with PLDT, a local telecommunication enterprise.	Philippines
YoYo Holding	Established in 2012 in Singapore. Provides an Android advertisement platform that rewards users with airtime for different kinds of activities. The service was launched in Indonesia, the Philippines and Viet Nam after 2014.	Indonesia, Philippines, Singapore, Viet Nam
Omise	Based in Thailand. Founded by a Japanese entrepreneur in 2013. It is a payment platform with operational hubs in Indonesia and Singapore.	Indonesia, Singapore, Thailand
Line Biz Plus Ltd	A business partnership between the Line Pay mobile payment platform in Thailand and BSS Holdings (a provider of Rabbit smart cards for mass transit systems and offline e-payment for retail in Thailand). The partnership started "Rabbit Line Pay" in 2016 with the aim of developing into a major integrated offline and online payment platform.	Thailand
Digital Garage Group	An online payment service provider. With econtext Asia Limited (Japan) and Beenos (Japan), invested in Sendo, an online consumer and business marketplace in Viet Nam.	Viet Nam
Doreming Asia	A Japanese fintech start-up that received support from a Japanese IT company (Mitsui Knowledge Industries) and a Vietnamese bank (Lien Viet Post Joint Stock Commercial Bank) in May 2018. It offers a payroll platform with an e-wallet service operated by LPB.	Singapore

Source: Company press releases.

Figure 4.14. The top 50 most funded fintech start-ups in ASEAN: digital business, 2017 (Per cent)



Source: Based on table 4.9.

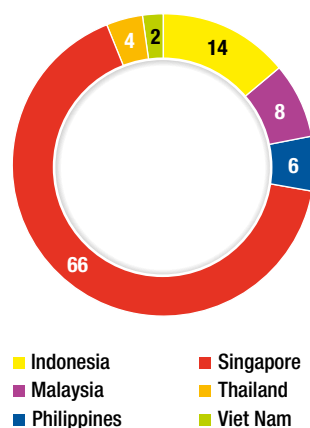
in Indonesia, Malaysia and the Philippines. Yet, despite the increasing interest from foreign fintech companies in ASEAN, indigenous fintech firms are establishing themselves as the main players in the region.

The fintech sector remains concentrated, in terms of both activity and home base. Of the largest 50 most-funded fintech companies, a majority operates in the payment and remittance segment (table 4.9, figure 4.14). These start-ups are able to exploit niche markets and gaps that traditional financial services companies have been unable to serve.

In addition, the fintech industry is also heavily concentrated geographically. The majority of the top 50 fintech start-ups are based in Singapore (figure 4.15),³⁹ a pattern observed for start-ups in all sectors (see section 4.4.4).

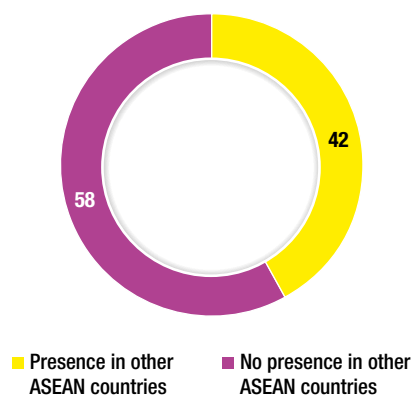
Although most of the top 50 fintech start-ups serve customers in other ASEAN economies, only 42 per cent maintain a physical presence abroad (figure 4.16). Examples of fintech start-ups with a physical presence abroad include InvestorZ (Thailand) in Singapore, Acudeen Technologies (Philippines) in Myanmar,

Figure 4.15. The top 50 most funded fintech start-ups in ASEAN, by country of origin, 2017 (Per cent)



Source: Based on table 4.9.

Figure 4.16. The top 50 most funded fintech start-ups in ASEAN: internationalization versus non-internationalization, 2017 (Per cent)



Source: Based on table 4.9.

Table 4.9. ASEAN: The 50 most-funded fintech start-ups, 2017

Rank	Name	Home country	Funds raised (\$ millions)	Activity	Presence in other ASEAN countries	Venture capital firms (selected cases)
1	TenX	Singapore	159	Financial exchanges	None	Fenbushi Capital (China), Chain Capital (China)
2	Akulaku	Indonesia	150	Lending, loans and credit	Malaysia Philippines Viet Nam	Finup (China), Sequoia Capital (United States), Shunwei China Internet Fund (Shunwei Capital), Qiming Venture Partners (China), DCM (United States), IDG Capital (United States), Legend Capital (China), GSR Ventures (China), Citi Ventures (United States), Ant Financial (China), EDBI Pte Ltd (Singapore)
3	M-DAQ	Singapore	99	Financial exchanges	None	
4	Mobile Credit Payment	Singapore	67	Payments and remittance	Indonesia Malaysia Thailand	Artivision Technologies (Singapore), ESW Manage (Singapore), DZW Capital (Singapore), Golden Equator Capital (Singapore)
5	Singapore Life	Singapore	50	Insurance tech	None	Impact Capital Holdings (Hong Kong (China)/Singapore), IPLG (United Kingdom)
6	Omise	Thailand	45	Payments and remittance	Indonesia Singapore	Krungsri Finnovate (Thailand), Innovating Capital (United States), SBI Asset Management (Japan), SMDV (Indonesia), Ascend Venture Group (United States), Golden Gate Ventures (Singapore)
7	TransferTo	Singapore	38	Payments and remittance	None	Ingenico Group (France), STC Ventures (United Arab Emirates)
8	Momo	Viet Nam	34	Payments and remittance	None	Alibaba (China), Matrix Partners China, Sequoia Capital China, Stonebridge Capital (Republic of Korea), Goldman Sachs (United States), Standard Chartered Bank (United Kingdom)
9	Funding Societies	Singapore	32	Lending, loans and credit	Indonesia Malaysia	Softbank Ventures Korea (Republic of Korea), Sequoia Capital (United States), Qualgro VC (Singapore), Line Corporation (Japan), Golden Gate Ventures (Singapore), Alpha JWC Ventures (Indonesia)
10	Republic Protocol	Singapore	31	Financial exchanges	None yet	Huobi Capital (Hong Kong, China), Limitless Crypto Investments (United States), Polychain (United Kingdom)
11	FinAccel (Kredivo)	Singapore	30	Lending, loans and credit	Indonesia	GMO Venture Partners (Japan), 500 Startups (United States), Alpha JWC Ventures (Indonesia), Jungle Ventures (Singapore), Openspace Ventures (Singapore), MDI Ventures (Indonesia), Square Peg Capital (Australia)
12	Tryb	Singapore	30	Investment tools and platforms	None	Chinsay AB (Sweden), Makara Capital (Singapore), MC Payment (Australia)
13	C88 (CekAja, eCompareMo, Premiro)	Singapore	28	Financial product comparison	Indonesia Philippines	Kickstart Ventures (Philippines), Experian (Republic of Ireland), Intervest Co (Republic of Korea), Kejora Ventures (Indonesia), Telstra Ventures (Australia), Monk's Hill Ventures (Singapore), FengHe Group (Singapore), Telstra Ventures (Australia), Captii Ventures (Malaysia)
14	Bezant	Singapore	25	Payments and remittance	None	Initial coin offering
15	Fastacash	Singapore	24	Payments and remittance	None	Life.SREDA (Singapore), Golden Equator Capital (Singapore), UVM 2 Venture Investments (Singapore), Rising Dragon Singapore Pte Ltd (Singapore), Jungle Ventures (Singapore), Spring Seeds Capital (Singapore)
16	PolicyPal	Singapore	20	Insurance tech	None	Initial coin offering 500 Startups (United States)
17	Jirnexu	Malaysia	19	Financial product comparison	Indonesia	SBI Investment (Japan), SIG (China), Celebes Capital (Indonesia), SBI Holdings (Japan), OSK Ventures (Malaysia), Cento Ventures (Singapore), Gobi Partners (China)
18	InstaReM	Singapore	18	Payments and remittance	Malaysia	Vertex Ventures (United States), Fullerton Financial Holdings (Singapore), Global Founders Capital (United States)
19	2C2P	Singapore	18	Payments and remittance	Cambodia Indonesia Malaysia Myanmar Philippines Singapore Thailand	GMO Venture Partners (Japan), Amun Capital AG (Hong Kong, China)
20	Change Finance	Singapore	17	Payments and remittance	None	Initial coin offering
21	EasyPay Indonesia	Indonesia	17	Payments and remittance	None	..
22	Lenddo	Singapore	14	Lending, loans and credit	Indonesia Philippines Thailand	AT Capital (Singapore), Bloomberg Capital (United States), Golden Gate Ventures (Singapore), Omidyar Network (United States), Life.SREDA (Singapore), Kickstart Ventures (Philippines), Metamorphic Ventures (United States), Accel Partners (United States), Bloomberg Capital (United States), iNovia Capital (Canada)

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Table 4.9. ASEAN: The 50 most-funded fintech start-ups, 2017

Rank	Name	Home country	Funds raised (\$ millions)	Activity	Presence in other ASEAN countries	Venture capital firms (selected cases)
23	Moneysmart	Singapore	12	Financial product comparison	None	Convergence Ventures (Indonesia), Kakaku.com (Japan), Golden Gate Ventures (Singapore), Singapore National Research Foundation (Singapore)
24	UangTeman	Indonesia	12	Lending, loans and credit	None	Enspire Capital (Singapore), Draper Associates (United States), Alpha JWC Ventures (Indonesia), STI Financial Group (Hong Kong, China), K2 Ventures
25	iMoney	Malaysia	11	Financial product comparison	Indonesia Philippines Singapore Thailand	Vogel Ventures (Germany), 500 Startups (United States), Spiral Ventures (Singapore), Econa AG (Germany), Rebright Partners (Japan–Singapore), Fenox Venture Capital (United States), Jungle Ventures (Singapore)
26	Coins.ph	Philippines	10	Payments and remittance	Malaysia Thailand Singapore	Kickstart Ventures (Philippines), Digital Currency Group (United States), Beenext (Singapore), Innovation Endeavors (United States), Wavemaker Partners (Singapore–United States), Global Brain Corporation (Japan), Rebright Partners (Japan), IdeaSpace Foundation (Philippines), Pantera Capital (United States)
27	PawnHero	Philippines	10	Lending, loans and credit	None	Softbank (Japan), 500 Startups (United States), IMJ Investment Partners (Singapore)
28	Canopy	Singapore	9	Investment tools and platforms	None	Credit Suisse (Switzerland), Lionrock Capital (Singapore)
29	Aspire Capital	Singapore	9	Lending, loans and credit	None	Mark 2 Capital (United States), Insignia Ventures Partners (Singapore), Hummingbird Ventures (United Kingdom), Y Combinator (United States)
30	StashAway	Singapore	8	Investment tools and platforms	Malaysia	..
31	Digix	Singapore	7	Financial exchanges	None	Fenbushi Capital (China), Global Brain Corporation (Japan)
32	CapBridge	Singapore	7	Payments and remittance	None	..
33	Capital & Credit Risk Manager (CCRMManager)	Singapore	6	Investment tools and platforms	None	Monetary Authority of Singapore
34	Taralite	Indonesia	6	Lending, loans and credit	None	SBI Holdings (Japan), Angel Investment Network Indonesia
35	Ayannah	Philippines	6	Payments and remittance	None	Life.SREDA (Singapore), 500 Startups (United States), Blue Compass (United Kingdom), Beenos (Japan), GREE Ventures (Singapore), Wavemaker Partners (Singapore–United States), Spiral Ventures (Singapore), Golden Gate Ventures (Singapore)
36	Coda Payments	Singapore	5	Payments and remittance	Cambodia Indonesia Malaysia Myanmar Philippines Thailand Viet Nam	Spiral Ventures (Singapore), GMO Global Payment Fund (Japan), CyberAgent Ventures (Japan), Rakuten (Japan), Golden Gate Ventures (Singapore)
37	Red Dot Payment	Singapore	5	Payments and remittance	Indonesia Thailand	GMO Venture Partners (Japan), DORR Group (Singapore), MDI Ventures (Indonesia), Wavemaker Partners (Singapore–United States)
38	JULO	Indonesia	5	Lending, loans and credit	None	East Ventures (Japan), Convergence Ventures (Indonesia), Skystar Capital (Indonesia), Provident Capital Partners (Singapore), Central Capital Ventura (Indonesia)
39	Soft Space	Malaysia	5	Payments and remittance	Indonesia Thailand Singapore Vietnam Philippines	Sumitomo Mitsui Financial Group (Japan), Transcosmos (Japan)
40	Spark Systems Pte Ltd	Singapore	5	Financial exchanges	None	Monetary Authority of Singapore
41	Numoni	Singapore	5	Payments and remittance	Indonesia Malaysia Philippines	OWW Capital Partners (Singapore)
42	SingX	Singapore	4	Financial exchanges	None	..
43	T2P (DeepPocket)	Thailand	4	Payments and remittance	Myanmar	Benchachinda Holding (Thailand), 500 Startups (United States), Telenor Digital (Norway), J-Venture (Thailand)
44	Pundi-Pundi	Indonesia	4	Payments and remittance	None	..

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Table 4.9. ASEAN: The 50 most-funded fintech start-ups, 2017 (Concluded)

Rank	Name	Home country	Funds raised (\$ millions)	Activity	Presence in other ASEAN countries	Venture capital firms (selected cases)
45	Moka	Indonesia	4	Payments and remittance	None	East Ventures (Japan), Fenox Venture Capital (United States), Convergence Ventures (Indonesia), Mandiri Capital Indonesia (Indonesia), Northstar Ventures (United Kingdom), Wavemaker Partners (Singapore–United States)
46	Validus Capital	Singapore	4	Lending, loans and credit	Indonesia	Vertex Ventures (Singapore)
47	Silot	Singapore	4	Payments and remittance	None	Arbor Ventures (Hong Kong, China), Eight Roads (United Kingdom), ZhenFund (China)
48	OOjiBO	Malaysia	4	Financial accounting and admin	Myanmar Singapore	Centurion Investment Management (Hong Kong, China)
49	Copernicus Gold Singapore	Singapore	3	Payments and remittance	None	..
50	Bambu	Singapore	3	Investment tools and platforms	Malaysia	Octava (United States), Franklin Templeton Investments India (United States), Tigerspike (Australia), Wavemaker Partners (Singapore–United States)

Source: ASEAN Investment Report 2018 research, based on Tech-in-Asia and Crunchbase databases (extracted August 2018).

Note: Ranked by funds raised. Crypto-currency companies are excluded from the list.

Omise (Thailand) in Indonesia and Singapore, and Coin.ph (Philippines) in Malaysia, Thailand and Singapore (box 4.9). Start-ups that serve other ASEAN markets without a physical presence in those countries include TransferTo (Singapore), Tryb (Singapore) and Fastacash (Singapore), which offer payments and remittance services across ASEAN without having local offices. A number of the most recently created top 50 companies, in existence for less than three years, have focused on their home market first but are planning a regional expansion. For instance, Silot (Singapore), a payments and remittance company founded in 2017, plans to use its latest round of funding to expand into Malaysia and Thailand.⁴⁰

Box 4.9. Omise (Thailand) and Coins.ph (Philippines)

Omise, a Thai online payment gateway established in June 2013, offers a wide range of processing solutions for businesses. The \$300,000 seed investment that Omise raised in August 2014 from East Ventures (Japan) facilitated the expansion of its domestic operations through the launch of additional services and products. In May 2015, Omise raised \$2.6 million in series A funding, which was used not only to further develop its payment gateway system but also to expand internationally. The main investors included East Ventures (Japan), 500 Startups (United States), SMDV (Indonesia), Sinarmas (Indonesia) and mobile operator True (Thailand). In October 2015, Omise raised additional capital from Golden Gate Ventures (Singapore), which supported its expansion into Japan in June 2016. In July 2016, the company raised \$17.5 million in series B funding from Golden Gate Ventures (Singapore), SMDV (Indonesia), SBI Asset Management (Japan) and Ascend Venture Group (United States), following which Omise started to expand and diversify its services to Indonesia and Singapore in 2017. After raising another \$25 million from an initial coin offering, Omise acquired Paysbuy, a payment processor, from mobile operator Dtac (Thailand) in 2017. The acquisition included a payment gateway and digital wallet, which provides Omise access to consumers and businesses in Thailand and Myanmar.

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Box 4.9. Omise (Thailand) and Coins.ph (Philippines) (Concluded)

Coins.ph (Philippines) is a financial services mobile platform that aims to connect more than 300 million people in Southeast Asia who are unbanked and out of reach by traditional banks and financial service providers. Coins.ph processes transactions from remittances, bill payments, mobile phone top-ups and other services provided by third-party-covered financial institutions. Founded in 2014, it expanded in the Philippines and to Thailand before raising a \$5 million series A round from investors such as Wavemaker Partners (United States), Digital Currency Group (United States), Global Brain Corporation (Japan), Beenext (Singapore), Quona Capital (United States) and Rebright Partners (Singapore). The funding round supported further regional expansion. In May 2017, Naspers (South Africa) invested \$5 million in the company. Since then the company has expanded into Malaysia, Thailand and Singapore.

Sources: Company website, Crunchbase and Tech-in-Asia.

Fintech firms' development and regional expansion has been underpinned by venture capital backing – both foreign and from within ASEAN (see section 4.4.6). Large United States venture capital firms (500 Startups, Omidyar Network, Sequoia Capital) have invested in many ASEAN fintech companies. Other significant investors include companies from China (Ant Financial, Gobi Partners, GSR Ventures), Japan (GMO Venture Partners, Line Corporation, SBI Holdings), Australia (MC Payment, Square Peg Capital and Telstra Ventures) and the Republic of Korea (Interinvest Co and Stonebridge Capital). European venture capital companies are also investing in ASEAN fintech start-ups (e.g. Chinsay AB (Sweden), Experian (Ireland), Ingenico Group (France) and Polychain (United Kingdom)).

Although venture capital companies play an important role in the expansion of fintech companies, so do accelerators, incubators and innovation labs. These programmes are an important part of the ecosystem supporting the emergence of fintech companies, particularly in their early development. As the average fintech company in the region is less than two years old, most of the funding in ASEAN fintech markets comes from seed and angel investors (Ernst and Young 2018), because established venture capital firms tend to support mainly the larger, more established start-ups. There are more than 116 accelerators, incubators and innovation labs in ASEAN, almost half of them (52) in Singapore (with 24 in Viet Nam, 20 in Indonesia, 10 in Malaysia, 5 in Thailand and 5 in the Philippines) (United Overseas Bank 2017).

4.4.6. Venture capital companies

Venture capital – both foreign and from within ASEAN – has backed the development of start-ups in ASEAN, as well as their regional expansion, thereby actively contributing to the digital economy. To be successful, start-ups typically need large capital injections to scale up rapidly and secure an early mover advantage. For instance, Grab has actively expanded in the region, and its competitor Go-Jek has announced plans to invest \$500 million to move into the Philippines, Singapore, Thailand and Viet Nam⁴¹ with funding raised from venture capital firms.

The 50 most active venture capital firms in ASEAN are from the region (most based in Singapore), as well as from China, Japan and the United States. They tend to specialize in specific stages of funding – although some invest in all stages (e.g. Golden Gate Ventures) – or in specific digital segments. Some funds (e.g. 500 Startups, box 4.10) focus on early-stage companies (seed or series A funding). Seed funding refers to the initial investment in a company, undertaken mainly by angel investors, but also by microventure capital firms and some large ones. Seed money is typically used to support initial market research and early product development. There are different types of early-stage venture capital companies, including those offering mentorship through incubators and accelerator programmes. Series A investment tends to support firms that are still in their infancy but have developed a clear business strategy as well as products and services, and have established some market traction. These start-ups tend to raise capital to build teams, further product development and expand their market.

Box 4.10. 500 Startups

500 Startups (United States) is a global venture capital seed fund of \$529 million. It has a dedicated fund to invest in the region, called 500 Durians. In 2016, the company raised a further \$50 million ASEAN-focused fund with the plan to invest \$50,000 to \$300,000 in 200 or more seed-stage companies. By 2016, a quarter of 500 Durians' portfolio companies had raised an additional \$2 billion with the fund's help.

To date, 500 Durians has funded over 160 companies in the region. However, 500 Startups offers more than capital: The fund also supports its portfolio companies by helping them develop their strategies, address business challenges and raise their next round of funding. It also provides in-house experts on growth and distribution, corporate partnerships and business-to-business customer acquisition, as well as media and public relations. The fund builds networks among the companies it invests in, helping to develop the tech ecosystem where it operates.

In 2016, 500 Startups started a \$10 million microfund in Viet Nam (500 Startups Vietnam), which invests in promising local start-ups. Besides providing finance, the fund offers mentorship and both global and regional connections. It has raised money from significant venture capital players, including Sequoia Capital, Social Capital, Stanford StartX and Google Launchpad (all United States).

500 Startups has invested in many rapidly growing start-ups such as Ayannah (Philippines), Base (Viet Nam), Carousell (Singapore), Fabelio (Indonesia), FoodAdvisor (Malaysia), Grab (Singapore), HappyFresh (Indonesia), HelloGold (Malaysia), HipFlat (Thailand), iMoney (Malaysia), Pomelo Fashion (Thailand), Wallex (Singapore) and Xfers (Singapore). And many of these start-ups have invested in other ASEAN countries.

Source: 500 Startups.

Other venture capital firms focus on later-stage funding (series B or later) for more mature start-ups heading towards an initial public offering. Start-ups then typically use later investment rounds to scale their business by expanding internationally, acquiring other companies or doing both. Besides funding by stage, some venture capital firms specialize in specific segments, for instance in fintech or e-commerce.

ASEAN venture capital firms are increasingly investing beyond their home countries. In Singapore, for instance, venture capital companies are investing in other ASEAN countries as well as in local start-ups. These Singapore-based venture capital firms include EDBI Pte Ltd, Fullerton Financial Holdings, Golden Gate Ventures, Jungle Ventures, Spring Seeds Capital and Vertex Holdings (box 4.11). Venture capital companies from other ASEAN countries are also active in investing in digital start-ups. They include Alpha JWC Ventures (Indonesia), Captii Ventures (Malaysia), Celebes Capital (Indonesia), Kejora Ventures (Indonesia), Kickstart Ventures (Philippines), Krungsri Finnovate (Thailand) and OSK Ventures (Malaysia). Table 4.10 presents the 50 most active venture capital investors in ASEAN in terms of number of investments made in a wide range of businesses in the region.

Box 4.11. Vertex Holdings

Vertex Holdings is headquartered in Singapore and wholly owned by Temasek Holdings (Singapore). The company is an integrated venture capital platform, which coordinates and enables investments into disruptive and transformational technologies. Vertex's global venture capital franchise comprises four early-stage, geographically focused IT funds (Vertex Ventures China, Vertex Ventures Israel, Vertex Ventures United States and Vertex Ventures Southeast Asia and India) as well as a global health care fund (Vertex Ventures Healthcare). It also has a growth-stage-focused fund that looks at follow-on opportunities from its global portfolio of companies.

In ASEAN, Vertex has offices in Singapore and Indonesia and is an active investor in start-ups across the region. It has invested in companies that have contributed to increased cross-border activities in the region, including Grab, HappyFresh, Instarem, Reebonz and Tickled Media (box table 4.11.1). Box table 4.11.2 presents other ASEAN-based Vertex portfolio companies.

Box table 4.11.1. Vertex Ventures Southeast Asia and India: Investment in digital and e-commerce start-ups with cross-border presence in ASEAN (Selected cases)

Company	Headquarters	Geographical presence	Business summary
Grab	Singapore	Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam	Technology company that offers a wide range of ride-hailing and logistics services through its app
HappyFresh	Indonesia	Indonesia, Malaysia Thailand	Provides an online platform across devices that enables efficient customer experience and convenience in grocery shopping and delivery
InstaRem	Singapore	Malaysia, Singapore, Australia, Europe, Hong Kong (China), India	Digital cross-border payment and remittance for Asian currencies
Reebonz	Singapore	Indonesia, Malaysia, Singapore, Thailand, Australia, Hong Kong (China), Japan, United States	Top online and member-exclusive private sales for luxury fashion merchandise in the Asia-Pacific region
Tickled Media	Singapore	Indonesia, Malaysia, Philippines, Singapore, Thailand, India	Operates theAsianParent and theIndusParent online platforms, the largest parenting websites in platforms in Asia (outside China)

Source: Vertex.

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Box 4.11. Vertex Holdings**Box table 4.11.2. Vertex Ventures Southeast Asia and India: Other selected investments**

Company	Headquarters	Geographical presence	Business summary
Active AI	Singapore	Singapore, Australia, India, United States	Technology for conversational banking and virtual personal assistants for financial consumers, predominantly in retail banking and wealth management
CloudCherry	United States	Singapore, India, United States	Real-time customer sentiment mapping and experience analytics
Cicil	Singapore	Indonesia	Provides consumer loans to university students, leveraging proprietary credit scoring to provide loans and social models through their network of student ambassadors (similar to the Grameen model)
M17	Taiwan Province of China	Indonesia, Malaysia, Singapore, Hong Kong (China), Japan, Republic of Korea, Taiwan Province of China	Southeast Asia's largest mobile social networking platform and top-grossing live-streaming app in Taiwan Province of China
Patsnap	Singapore	Singapore, China, United Kingdom, United States	Patent search and analysis for non-IP experts
Payfazz	Indonesia	Indonesia	Digital banking to reach unbanked population in Indonesia
SoCash	Singapore	Singapore	Aims to be the largest and most efficient cash circulation platform in Asia, leveraging mobile banking adoption and offline merchant networks
StoreHub	Malaysia	Malaysia	Point-of-sale platform for SMEs
Validus Capital	Singapore	Singapore	An online peer-to-business lending marketplace for SMEs to secure short-term and medium-term financing
Warung Pintar	Indonesia	Indonesia	Smart kiosk, technology integration for "mom and pop" shops

Source: Vertex.

For Vertex Holdings, the prospects for investments in digital start-ups in ASEAN are promising. Key drivers include urbanization, consumerism and rising incomes, deregulation and young demographics. The market in ASEAN has lower competition intensity for start-up founders and investors, which provides a rational entry valuation. Interesting sectors for investors include social media, fintech and artificial intelligence.

Sources: Vertex Holdings and Chua (2018b).

Table 4.10. ASEAN: Most active venture capital companies in the technology sector, 2017

Venture capital firm	Home country	Fund value (\$ millions)	Markets served	Examples of companies invested in
1337 Ventures	Malaysia	..	Indonesia, Malaysia, Philippines, Singapore, Viet Nam	Sewa (Indonesia), Saloniz (Viet Nam), Perfec (Singapore), Navi (Viet Nam), iMpok (Philippines)
500 Startups	United States	350	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam	Ahljasa (Indonesia), Infonesia (Indonesia), Urbanhire (Indonesia), Carsome (Malaysia), Kaodim (Malaysia), Claim Di (Thailand), Disrupt (Thailand), Pomelo (Thailand), PawnHero (Philippines), Ayannah (Philippines), Zipmatch (Philippines), Rumarocket (Philippines), Carousell (Singapore)
500 Startups Vietnam Focused Fund	United States	10	Viet Nam	Base (Viet Nam), Chopp (Viet Nam), Leflair (Viet Nam), Hiip (Viet Nam)
Ardent Capital	Thailand	13	Indonesia, Thailand, Singapore	Orami (Indonesia), HUBBA Coworking Space (Thailand) and HappyFresh (Indonesia)
Asia Venture Group	Malaysia	..	ASEAN	Dahmakan (Malaysia), HappyFresh (Indonesia), iMoney Group (Malaysia), iPrice Group (Malaysia)
Axiata Digital Innovation Fund	Malaysia	..	Malaysia, Singapore	Tripfez (Malaysia), EasyParcel (Malaysia), Supahands (Malaysia)
B Capital Group	United States	360	Singapore	Capital Match (Singapore), CXA Group (Singapore), Carro (Singapore), Ninja Van (Singapore)
Beenos Partners	Japan	60	Indonesia, Philippines, Singapore, Viet Nam	Ayannah (Philippines), Sendo (Viet Nam), Tokopedia (Indonesia), Zilingo (Singapore), Lalali (Indonesia)
Coent Venture Partners	Singapore	10	Singapore	HelloWings (Singapore), Gnowbe (Singapore), JOB Forward (Singapore)
Convergence Ventures	Indonesia	25	Indonesia, Singapore, Thailand	Paktor (Singapore), Moka (Indonesia), JULO (Indonesia), Xfers (Singapore), Helpster (Thailand)
Crystal Horse Investments	Singapore	..	Indonesia, Malaysia, Philippines, Singapore, Thailand	Lensza (Indonesia), TableApp (Malaysia), GoQuo (Malaysia), Hermo (Malaysia), PropertyAsia (Philippines), Save22 (Philippines), Nestia (Singapore), HipFlat (Thailand)
CyberAgent Ventures	Japan	100	Indonesia, Thailand and Viet Nam	Tokopedia (Indonesia), Tiki Corporation (Viet Nam), aCommerce (Thailand), Coda Payments (Singapore), GetLinks (Thailand)
East Ventures	Japan	57	Indonesia, Malaysia, Singapore, Thailand, Viet Nam	Traveloka (Indonesia), Tokopedia (Indonesia), Warung Pintar (Indonesia), Omise (Thailand), ShopBack (Singapore), dahmakan (Malaysia), Kaodim Group (Malaysia), Rovo (Singapore), Shoppo (Malaysia), CirCO Coworking Space (Viet Nam)
Emtek Group	Indonesia	..	Indonesia, Malaysia, Singapore	Grab (Singapore), Iflix (Malaysia), PropertyGuru Group (Singapore), HijUp (Indonesia), Kudo (Indonesia)
Fenox Venture Capital	United States	610	Indonesia, Malaysia, Singapore, Thailand, Viet Nam	Pomelo Fashion (Thailand), 99.co (Singapore), Alodokter (Indonesia), Moka (Indonesia), iMoney Group (Malaysia), OnOnPay (Viet Nam), Geniee (Singapore)
GMO Venture Partners	Japan	100	Indonesia, Philippines, Singapore, Thailand	Kredivo (Indonesia), Carro (Singapore), Coda Payments (Singapore), Red Dot Payment (Singapore), Ardent Capital (Thailand), Indotrading (Indonesia), Dragonpay (Philippines)
Gobi Partners	China	361	Indonesia, Malaysia, Singapore, Thailand, Viet Nam	Carsome (Malaysia), Orami (Indonesia), Deliverer (Thailand), JULO (Indonesia), Glints (Singapore), Travelio (Indonesia), Jirnexu (Malaysia), Triip (Viet Nam)
Golden Gate Ventures	Singapore	135	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam	Carousell (Singapore), Traveloka (Indonesia), Go-Jek (Indonesia), Sendo (Viet Nam), Pomelo Fashion (Thailand)
GREE Ventures	Japan	117	Indonesia, Philippines, Singapore	Luxola (Singapore), Saleswhale (Singapore), AYOPOP (Indonesia), Ayannah (Philippines), Berrybenka (Indonesia)
Ideosource	Indonesia	..	Indonesia, Singapore	Kark Mobile Education (Singapore)
Incubate Fund	Japan	137	Singapore, Thailand	HostelHunting (Thailand), Inzen Studio (Singapore), MotionElements (Singapore)
IncuVest	Singapore	..	Malaysia, Singapore	GoCoin (Singapore), Vanitee (Singapore), Fundnel (Singapore), Homegg.asia (Malaysia)
Innosight Ventures	Singapore	..	Singapore	Anchanto (Singapore), Chope Group (Singapore), Capital Match (Singapore)
Insignia Venture Partners	Singapore	120	Indonesia, Singapore, Viet Nam	Carro (Singapore), Logivan (Viet Nam), Warung Pintar (Indonesia), Igloohome (Singapore), Travelio (Indonesia)

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Table 4.10. ASEAN: Most active venture capital companies in the technology sector, 2017 (Concluded)

Venture capital firm	Home country	Fund value (\$ millions)	Markets served	Examples of companies invested in
Invent	Thailand	..	Singapore, Thailand	Ookbee (Thailand), Wongnai (Thailand), ShopSpot (Singapore), Playbasis (Thailand)
Jungle Ventures	Singapore	100	Indonesia, Malaysia, Singapore, Thailand	Pomelo Fashion (Thailand), Iflix (Malaysia), Kredivo (Indonesia), RedDoorz (Singapore), TradeGecko (Singapore)
Kejora Ventures	Indonesia	200	Indonesia, Singapore, Thailand	C88 Financial Technologies (Singapore), Etobee (Indonesia), Money Table (Thailand), Pawoon (Indonesia), Jualo (Singapore)
Kickstart Ventures	Philippines	..	Indonesia, Philippines, Singapore	Snapcart (Indonesia), Kalibrr (Philippines), C88 Financial Technologies (Singapore), ZipMatch (Philippines), mClinica (Singapore)
KK Fund	Singapore	..	Indonesia, Malaysia, Philippines, Singapore, Thailand	Supplycart.my (Malaysia), HelloWings (Singapore), Kaodim Group (Malaysia), Fabelio (Indonesia), Giztix (Thailand), Venty Inc. (Philippines)
Life.SREDA	Singapore	170	Singapore, Philippines	Ayannah (Philippines), Fastacash (Singapore), Mobikon (Singapore)
Majuven	Singapore	..	Indonesia, Singapore	Paktor (Singapore), Grain (Singapore), Fundnel (Singapore), Paraplou (Indonesia)
Monk Hill Ventures	Singapore	130	Indonesia, Philippines, Singapore, Thailand	Ninja Van (Singapore), Horangi (Singapore), ZipMatch (Philippines), Playlab (Thailand), Kulina (Indonesia)
Openspace Ventures	Singapore	225	Indonesia, Myanmar, Singapore, Viet Nam	Kredivo (Indonesia), Zimplistic (Singapore), Oway (Myanmar), Chope Group (Singapore), Go-Jek (Indonesia), Topica Edtech Group (Viet Nam)
OPT SEA	Singapore	..	Indonesia, Singapore, Thailand	WearYouWant (Thailand), Indotrading (Indonesia), Cornflx.TV (Singapore), MoneySmart (Singapore), Medical Departures (Thailand), Event Pop (Thailand)
Quest Ventures	Singapore	..	Indonesia, Malaysia, Singapore, Vietnam	Eatsy Technologies (Singapore), Telepod (Singapore), PostCo (Malaysia)
Rakuten Ventures	Japan	300	Indonesia, Singapore	Carousell (Singapore), CodaPay (Singapore), Go-Jek (Indonesia), Visenze (Singapore)
Rebright Partners	Singapore	20	Indonesia, Malaysia, Philippines, Singapore, Thailand	Prelo (Indonesia), Graved (Indonesia), iMoney (Malaysia), coins.ph (Philippines), Smove (Singapore), Claim Di (Thailand)
SB ISAT	Indonesia	..	Indonesia, Singapore	Dealoka (Indonesia), Tech in Asia (Singapore), Qerja (Indonesia)
SeedPlus	Singapore	18	Singapore, Thailand	Travelstop (Singapore), Homage (Singapore), KYKLO (Thailand)
Sequoia Capital	United States	15	Indonesia, Malaysia, Singapore	Bubbly (Singapore), CardUp (Singapore), CastingDB (Singapore), iCarsClub (Singapore), Zilingo (Singapore), Traveloka (Indonesia), KFit (Malaysia), OnlinePajak (Indonesia)
Sinar Mas Digital Ventures	Indonesia	..	Indonesia, Thailand	Snapcart (Indonesia), Orami (Indonesia), HappyFresh (Indonesia), Omise (Thailand), aCommerce (Thailand)
Singtel Innov8	Singapore	250	Singapore	Carro (Singapore), ShopBack (Singapore), Pokkt (Singapore)
SoftBank Capital	Japan	523	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam	PawnHero (Philippines), Redmart (Singapore), Grab (Singapore)
SPH Media Fund	Singapore	..	Indonesia, Malaysia, Singapore	Snapcart (Indonesia), TheLorry.com (Malaysia), MoneySmart (Singapore), Docquity (Singapore)
Spiral Ventures	Singapore	116	Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam	Health Metrics (Malaysia), Zoom (Indonesia), Vexere (Viet Nam), Docquity (Singapore), First Circle (Philippines), Kata.ai (Indonesia)
TNF Ventures	Singapore	..	Singapore	Lomotif (Singapore), Higher Identity (Singapore), Zyllem (Singapore)
Venturra Capital	Indonesia	150	Indonesia, Malaysia, Singapore	Fabelio (Indonesia), iPrice Group (Malaysia), Kaodim Group (Malaysia), Carro (Singapore), Zilingo (Singapore), TaamKru (Thailand)
Vertex Ventures	Singapore	725	Indonesia, Singapore	17 MEDIA (Singapore), Grab (Singapore), Reebonz (Singapore), HappyFresh (Indonesia)
Wavemaker	United States	184	Indonesia, Philippines, Singapore, Thailand	Ayannah (Philippines), Coins.ph (Philippines), Taidii (Singapore), PortfolioQuest (Singapore), Helpster (Thailand), Oddle (Singapore), Kalibrr (Philippines), Doxcheck (Philippines), WoBe (Indonesia), Snapcart (Indonesia), Red Dot Payment (Singapore)
Alpha JWC Ventures	Indonesia	..	Indonesia, Singapore	Deal Street (Singapore), Carro (Singapore), FinAccel (Indonesia), Lemonilo (Indonesia)

Sources: Based on Tech-in-Asia database, Crunchbase and websites of respective VCs.

Note: Most active in terms of cumulative number of investments in ASEAN.

4.5. MSMEs AND THE DIGITAL ECONOMY

The digital revolution provides significant growth opportunities for MSMEs in ASEAN. The development of e-commerce and fintech offers easier access to technology and finance and better connection to domestic, regional and global markets, as well as potential productivity gains. MSMEs can benefit from the use of digital technology to grow their traditional business, improve efficiency, help other MSMEs and reach out to the unserved or unbanked. In addition, the digital revolution is providing MSMEs with opportunities to start digital businesses – adding to the pool of MSMEs – and some are success stories (see section 4.4). The challenge is to help these companies access and maximize their potential benefits by using digital technology.

Increasingly, more MSMEs in ASEAN are using digital technology to support their traditional operations. They are developing websites and using apps and the platforms of digital firms to reach out to customers more effectively or to market themselves. This is the strategy that Javara (an Indonesian SME that manufactures and trades agricultural and food products) has followed; it now sells to 23 countries, and exports account for 55 per cent of its sales (ASEAN Secretariat 2018). Similarly, Suffly Dairy (a Malaysian SME that manufactures goat and cow milk powder) used e-commerce platforms such as Lazada and Shopee to expand its reach in domestic and international markets.

Eat Lah! sold chicken rice with salted egg sauce in a packaged box with one outlet in Jakarta in 2015. Today, it has 11 outlets with 70 employees, with 90 per cent of its orders coming through the Go-Food platform, owned by Go-Jek.⁴² Tuku (Toko Kopi), opened in 2015 in Jakarta, was a small neighbourhood coffee shop with two employees. Tuku partnered with Go-Food and used its platform to increase awareness and reach out to a wider clientele. Before undertaking the partnership, takeaway orders constituted 20 per cent of sales. Today, takeaway orders are about 45 per cent of sales and the company has grown to have 50 employees.⁴³ Martabak Orins, an Indonesian food delivery business, started with one outlet and four employees in 2011. Its challenge was in marketing to and reaching potential customers, including timely delivery to clients around Jakarta. It partnered with Go-Food, using the platform app as a marketing tool, and tapped into Go-Jek's transport services for delivery solutions. As of mid-August 2017, Martabak Orins had 20 small outlets and 300 employees. The founder attributed the growth to its partnership with Go-Jek.⁴⁴

Some MSMEs have entered into digital businesses based on business models to help other MSMEs, thereby connecting digital MSMEs with traditional ones. For instance, 99%SME eMarketplace (Singapore) helps some 700 SME merchants with online transactions, from taking their business online and advertising to managing orders and logistics. Acudeen (Philippines) helps SMEs collect and trade their debts through online processing, including supporting the unserved and unbanked (box 4.12). PLDT Enterprise (a member of the Indonesian Salim Group) partnered with Go Negosyo in the Philippines to launch a SME e-commerce enablement programme. The programme trains and enables small businesses to set up and manage online stores. Other MSMEs in the region have also relied on third-party e-commerce platforms such as Alibaba (China), Zalora (Singapore) and Lazada, based in Singapore (owned by Alibaba), to market their products and services.

Box 4.12. Acudeen Technologies: A start-up connecting SMEs

Acudeen Technologies (Philippines) is an e-platform financing facility that offers SMEs that struggle to collect payments from clients a way to sell their accounts receivable at a discount. The unpaid invoices are offered to funders that include high-net-worth individuals, corporations and institutions. Acudeen thus provides SMEs with an alternative source of financing, strengthening business ties across the region.

Acudeen was launched in 2016 with five staff members, five SMEs on its platform and a few funders. By 2017, the company's operations had expanded at home and to Myanmar. It now has 50 employees in the Philippines and 10 in Myanmar, and some 3,000 SMEs on its platform. It has partnered with two major banks (Union Bank and Rizal Commercial Banking Corporation) in the Philippines and has also started working with local banks such as CB Bank in Myanmar. Acudeen Technologies generated over \$3 million worth of transactions in 2017, and the 800 funders using the platform held over \$1 million in trust. Acudeen has established an operation in Singapore to tap the strategic benefits of that host country (e.g. its robust financial infrastructure and digital ecosystem).

Acudeen relies on digital technology to keep developing and improving its platform. It is now in the process of partnering with IBM to use blockchain technology and enable the traditional formal lending sector to interact with its system of discounted accounts receivable transactions. The company also leverages digital technology to offer an efficient system of risk scoring that lowers the cost of pricing accounts receivables, as well as an online system that accelerates the release of funds to SMEs. Yet all SMEs need to use Acudeen's service is an Internet connection: access to the platform is online and requires no specific hardware or software. Acudeen also trains participating SMEs in the use of the platform.

The company is growing by adding more SME participants and funders to its system, both at home and in Myanmar, and by developing additional platforms and facilities to better serve clients. Acudeen's expansion into Myanmar in early 2018 was motivated by the large number of domestic SMEs and the market potential they offer. Acudeen established Kyopay Technologies Pte Ltd (Singapore) as its holding company. It partnered with Anthem Asia (Singapore) to establish a subsidiary in Myanmar. The company has plans to expand into Indonesia, Malaysia, Thailand and Viet Nam. It has successfully raised funds to finance business development and to grow (box table 4.12.1).

Box table 4.12.1. Acudeen funding rounds

Funding round	Amount	Date	Selected investors
Seed	\$200,000	June 2016	Nullabor Ventures (Singapore) JJ Atencio (Philippines)
Series A	\$1 million	May 2017	Seed Stars (Switzerland) 500 Start-ups (United States) Lluillier (Philippines) Nullabor Ventures (Singapore)
Series B and C	In progress	Scheduled late 2018	..

Source: Acudeen, June 2018.

Source: ASEAN Investment Report 2018 research, based on interview with Acudeen founder.

Digital skills are critical to enable MSMEs to understand the opportunities available in the digital age. MSMEs can be assisted through platforms that help them to crowdfund money, tech hubs where they can learn and grow, and payment platforms, online marketplaces and fulfilment platforms (box 4.13). Digital skills can help MSMEs navigate the steps needed to establish an online presence and to receive digital payments from customers. Governments can play a key role in MSMEs' digital awareness and support their use of digital technology. Countries in the region are undertaking initiatives to help their MSMEs connect digitally or use digital technology to connect to markets (chapter 5).

The use of digital technology has resulted in the creation and rapid expansion of many digital start-ups, strengthening the region's MSME landscape (section 4.4). These start-ups have grown rapidly within a few years, becoming targets for acquisition by bigger local companies, more established start-ups or international corporations (e.g. the acquisition by Carousell (Singapore) of Duriana (Malaysia), the acquisition by Go-Jek (Indonesia)⁴⁵ of three local fintech firms to expand its payment system business in Indonesia). These digital start-ups have become inspirational stories for other MSMEs and entrepreneurs who consider entering digital businesses or using third-party digital platforms to reach out to markets.

Box 4.13. Information for digital skills development for MSMEs (Selected cases)

- *Crowdfunding.* Crowdfunding platforms allow start-ups to raise money from a large number of investors through the Internet. The return for the investors can be a reward, typically the output of the company, interest payments or equity in the company. Such platforms can be interesting for entrepreneurs or small companies, which have difficulties raising money from traditional financial institutions, relying instead on personal sources of funds.
- *Tech hubs.* These physical spaces help support tech entrepreneurs and start-ups or MSMEs. Although there is a broad variation in models, typically they are useful for entrepreneurs to be able to work, have Internet access and network with potential partners, funders, mentors and employees. The GSMA has found 51 in Indonesia, 39 in Malaysia, 38 in Thailand, 37 in Viet Nam, 34 in the Philippines, and 14 each in Myanmar and Indonesia.^a These hubs can themselves benefit from investments by a variety of funders, including governments, mobile operators, international digital firms and venture capitalists.
- *Payments.* Digital payments are critical to foster a digital economy through e-commerce, and also to bring unbanked populations online and make payments possible for those without credit cards. Mobile money is a popular and well-known form of digital payment, and examples exist throughout the region, including Smart Money in the Philippines. There are stand-alone services, such as Pi Pay in Cambodia, and e-commerce companies are developing their own payment systems. National payment systems are also being introduced, with the first two being PromptPay in Thailand and PayNow in Singapore, with plans to link the plans to allow cross-border payments.^b All of these payment systems can be useful to support MSMEs that have limited access to banks and finance.

/...

Box 4.13. Information for digital skills development for MSMEs (Selected cases) (Concluded)

- *Marketplace.* The potential for e-commerce in the region is significant, given the relatively low penetration of large retailers in much of the region. One model for this is first party, popularized by Amazon, where the retailer builds warehouses, buys inventory and is responsible for fulfilment. Another is third-party, popularized by Alibaba, where the company acts as a platform connecting independent sellers with buyers. Such third-party platforms can provide significant opportunities for small sellers to reach large markets and are growing rapidly in the region.
- *Fulfilment.* E-commerce providers have to manage the fulfilment of their orders, and companies have entered the market to provide cloud-based services to help providers manage their value chain. This can be particularly helpful for SMEs who do not have the capacity or scale to manage their sales effectively. Examples include Anchanto (Singapore), and aCommerce (Thailand), which are both expanding to a number of countries in the region. aCommerce, for instance, helps enable e-commerce for brands, providing end-to-end solutions for sales. Others in this area include SingPost, the postal provider of Singapore, which has invested significantly in e-commerce logistics, and in turn received a significant investment from Alibaba.

Source: ASEAN Investment Report 2018 research.

^a See <https://www.gsma.com/mobilefordevelopment/programme/ecosystem-accelerator/asia-pacific-a-look-at-the-565-active-tech-hubs-of-the-regions-emerging-economies/>.

^b See <https://www.bloomberg.com/news/articles/2017-10-04/singapore-thailand-discuss-e-payment-alliance-for-digital-push>.

4.6. CONCLUSION

Investment in the digital economy in ASEAN is rising, as measured by greenfield investment in ICT projects and cross-border M&As in ICT and in digital sectors (e.g. e-commerce, digital content, Internet platforms and digital solutions). Investments and companies from developed and developing economies, such as those in Asia (China, Japan, the Republic of Korea), North America (the United States), Europe and elsewhere, are present in the region. Start-ups and large traditional MNEs from ASEAN are actively investing regionally. The region is also receiving increasing investment attention from digital firms, ICT MNEs, start-ups and venture capital companies.

Greenfield ICT FDI projects in ASEAN averaged about \$11 billion annually between 2010 and 2017. Non-manufacturing ICT greenfield investment projects grew rapidly from 24 per cent of total greenfield ICT investment in 2003–2007 to 51 per cent in 2013–2017. Cross-border ICT M&As have also risen rapidly, from just \$172 million in 2010 to \$3.6 billion in 2017, and venture capital investments with exposure to the digital economy averaged \$2.7 billion a year during 2014–2017. The increasing use of the M&A channel is a key feature, as digital and ICT MNEs seek to scale up quickly, access technology and skills, and expand networks in the region.

The prospects for FDI in the digital economy are promising for a number of reasons. First, the region offers significant potential and opportunities for digital firms and ICT infrastructure MNEs because of the rapidly growing Internet economy, which is expected to increase from

\$50 billion in 2017 to \$200 billion by 2025. Second, the improving digital ecosystems, supportive government policies, changing consumer shopping behaviour, increasing use of social media and Internet platforms, and rising mobile phone penetration rates are driving e-commerce activities in the region. Third, regional integration with a population of 640 million as well as a rapidly growing middle-income consumer base are also major drivers. These factors together with a growing regional economy and countries in the region working towards developing a competitive digital hub will continue to attract investment interests from within the region and elsewhere.

The various categories of players and companies are contributing to the evolving digital landscape. They each play a different role in the development of the digital economy. Digital companies (tech and e-commerce entities) and ICT MNEs (enablers in providing infrastructure) are investing in different segments of digital value chains, from building telecommunication infrastructure to upgrading technologies, from establishing data centres to funding start-ups. Mostly local companies with participation by foreign ICT MNEs dominate the development of telecommunication infrastructure in the region, which provides the foundation for the digital economy. They have invested (in terms of capital expenditure) an average of \$10 billion annually over the past 12 years in telecommunication infrastructure and are expected to contribute \$13 billion annually through 2030 to support new infrastructure, broaden coverage, meet data demand and upgrade technology (from 3G to 4G or 5G). Although significant investment in telecommunication infrastructure in the region has resulted in mobile broadband availability reaching greater than 90 per cent of the population, gaps still remain, requiring sustained local and foreign private investment in digital infrastructure.

The digital revolution has disrupted traditional business operations, but large ASEAN companies and conglomerates are adapting, transforming and embracing digital opportunities to expand their market reach, improve efficiency and diversify into new digital businesses such as in e-commerce and fintech. In some cases, they also invest in financing digital start-ups or are themselves venture capitalists. In addition, ASEAN MSMEs are using digital technology to expand their market reach, to improve efficiency, to innovate and to grow. ASEAN MSMEs are increasingly using third-party platforms to support their traditional businesses, and some MSMEs are starting digital businesses to serve niche markets, such as connecting with other traditional MSMEs, as well as with the unserved and the unbanked – forging a link between digital and traditional MSMEs.

The rapid increase in the number of start-ups is making ASEAN a hotbed for venture capital and encouraging the establishment of more start-ups. There are more than 13,500 tech start-ups in the region, but they are unevenly distributed geographically.

The 50 largest-funded ASEAN digital start-ups had raised a cumulative \$13.8 billion as of June 2018, as compared with only \$1 billion in 2015, but a majority of this funding is concentrated in a few unicorns (Go-Jek, Grab, Sea Ltd, Traveloka, Tokopedia). An increasing number of these start-ups are undertaking cross-border activities through regional investments and the establishment of a physical presence in other ASEAN countries, to scale up and to benefit

from network effects, although the majority are only a few years old. Fintech start-ups are also growing rapidly in the region, along with those in e-commerce.

Foreign and ASEAN venture capital is a crucial source of support to the digital ecosystem. It provides early funding for start-ups, also enabling their subsequent expansion and internationalization. Although the venture capital industry in ASEAN is still small compared with that in other regions, opportunities in the region's digital industry are attracting more foreign firms and supporting the expansion of ASEAN-based funds. More companies are entering the growing venture capital industry, including digital and ICT (infrastructure) MNEs and large traditional companies (conglomerates) in ASEAN. They establish dedicated funds and also participate in third-party venture capital investments.

NOTES

- ¹ Compound annual growth rate since 2015 (Google and Temasek 2017).
- ² That said, it is offered by less than 20 per cent of merchants in Singapore and Malaysia, where credit cards predominate. iPrice Insights, 2017, “The State of eCommerce in Southeast Asia 2017”, White paper.
- ³ See <https://www.aseantoday.com/2017/12/how-alibaba-and-ant-financial-increase-their-presence-in-asean/>.
- ⁴ See <http://fortune.com/2015/01/05/tencent-leads-new-wave-of-private-online-chinese-banks/>.
- ⁵ Covers only Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam. See <https://www.emarketer.com/Article/Digital-Ad-Spending-Set-Surge-Southeast-Asia/1016531>.
- ⁶ Google-Temasek 2017.
- ⁷ A.T. Kearney, 2015, p. 26. Only in Singapore is the reluctance below the global average, with 41 per cent of those surveyed reluctant to share their financial information online.
- ⁸ Google-Temasek, 2016, “e-Economy SEA”.
- ⁹ Telecommunication networks encompass a set of interconnected components requiring ongoing investment to support ever-increasing data flows. These components include submarine cables, national fibre-optic backbones and mobile and wired broadband access networks. Investment in data centres is increasing in the region.
- ¹⁰ <https://techcrunch.com/2018/03/18/alibaba-doubles-down-on-lazada/>.
- ¹¹ Google-Temasek 2017.
- ¹² Vertex Ventures presentation at the UNCTAD–ASEAN Consultative Forum on Investment in the Digital Economy in ASEAN, 12–13 July 2018, Kuala Lumpur, Malaysia.
- ¹³ This category of players is not analysed in this report.
- ¹⁴ Telenor operates 4G/LTE services in 25 major cities in Myanmar.
- ¹⁵ DCD Magazine, “The rise and rise of data centres in South East Asia”, 23 October 2015 (<http://www.datacenterdynamics.com/content-tracks/design-build/the-rise-and-rise-of-data-centers-in-south-east-asia/94701.fullarticle>).
- ¹⁶ “PT. Sumitomo Indonesia” (<http://www.sumitomocorp-indonesia.co.id/en/our-business/media-network-lifestyle-related-goods-services/media-network-lifestyle-and-retail-business>).
- ¹⁷ Bangkok Post, “Central scraps Zalora, launches Looksi”, 15 June 2017 (<https://www.bangkokpost.com/tech/local-news/1268695/central-scraps-zalora-launches-looksi>).
- ¹⁸ MarketsInsider, “BookDoc partnering Siloam, Indonesia’s largest hospital group”, 26 February 2018. (<http://markets.businessinsider.com/news/stocks/bookdoc-partnering-siloam-indonesia-s-largest-hospital-group-1017232253>).
- ¹⁹ Reuters, “Ride-hailing service Grab partners Indonesia’s Lippo for mobile payments”, 22 July 2016 (<https://www.reuters.com/article/us-indonesia-grab-lippo/ride-hailing-service-grab-partners-indonesias-lippo-for-mobile-payments-idUSKCN1020CF>).
- ²⁰ Dealstreetasia, “Lippo Group’s Ovo co-branded partnership with GrabPay in Indonesia”, 15 December 2017 (<https://www.dealstreetasia.com/stories/lippo-groups-ovo-partners-grabpay-in-indonesia-88603/>).
- ²¹ At the exchange rate of RM 4 = \$1.
- ²² Axiata teamed up with Malaysian Venture Capital Management to establish a RM 100 million venture capital fund called the Axiata Digital Innovation Fund (ADIF). Source: The Sun Daily, “Axiata-Mavcap fund invests RM12.5 million in six tech firms”, 9 December 2015 (<http://m.thesundaily.my/node/341337>) and Tech in Asia, “Axiata fund to inject up to \$1m more into each of 6 portfolio startups”, 2015 (<https://www.google.co.id/amp/s/www.techinasia.com/axiata-fund-inject-1m-6-portfolio-startups/amp/>).
- ²³ The Star Online, “CIMB launches mobile banking”, 1 August 2008 (<https://www.thestar.com.my/business/business-news/2008/08/01/cimb-launches-mobile-banking/>).

- ²⁴ Nikkei Asian Review, "Malaysia's CIMB sets up Fintech Unit", 11 April 2017 (<https://asia.nikkei.com/Business/Malaysia-s-CIMB-sets-up-fintech-unit>).
- ²⁵ Straits Times Online, "JG Summit scales new peak with fintech", 12 August 2017 (<http://www.straitstimes.com/business/jg-summit-scales-new-peak-with-fintech>); Asia.Nikkei.com, "JG Summit ventures into fintech", 2 August 2017 (<http://Asia.Nikkei.Com./Business/AC/JG-summit-ventures-into-fintech>).
- ²⁶ Entrepreneur.com.ph, "Which of PH's largest conglomerates are active in the ASEAN region", 13 November 2017 (<https://www.entrepreneur.com.ph/news-and-events/which-of-ph-s-largest-conglomerates-are-active-in-the-asean-region-a00200-20171113>).
- ²⁷ 2017 Singtel Annual Report, page 37
- ²⁸ 2017 Singtel Annual Report page 33.
- ²⁹ 2017 Singtel Annual Report, Page 56
- ³⁰ The Telkomsel Innovation Center is Ready to Fund Start-up Research. Detikinet. 26 July 2018 (<https://inet.detik.com/telecommunication/d-4133879/pusat-inovasi-telkomsel-siap-biaya-ri-set-startup>)
- ³¹ SCG, 2017 Annual Report, pp. 2–3.
- ³² Based on Tech-in-Asia database (as of August 2018).
- ³³ Excluding Lazada (Singapore), which is now own by Alibaba (China)..
- ³⁴ Tech-in-Asia, "Carousell is getting serious about making money, acquires used-car app", 27 October 2016 (<https://www.techinasia.com/carousell-caarly-acquisition>).
- ³⁵ "A Classifieds marketplace offers its users the most value when there's a large and vibrant community of buyers and sellers on the platform." ("Carousell acquires Duriana to cement leadership in Malaysia, consolidates position as largest mobile classifieds marketplace in Asia Pacific", 5 January 2017, press release (<https://press.carousell.com/2017/01/05/carousell-acquires-duriana-to-cement-leadership-in-malaysia-consolidates-position-as-largest-mobile-classifieds-marketplace-in-apac/>).
- ³⁶ Forbes, "Malaysia's Patrick Grove aims to go global with Iflix video-on-demand", 1 March 2017 (<https://www.forbes.com/sites/susancunningham/2017/03/01/malaysia-patrick-grove-plans-to-go-global-with-iflix-video-on-demand/#5633359f283b>); iFlix, "Market Launches", company website (<https://blog.iflix.com/about/>).
- ³⁷ <https://www.traveloka.com/en-ph/about-us>; <https://www.startupinspire.com/startup/traveloka>.
- ³⁸ <https://www.techinasia.com/southeast-asia-sees-record-startup-funding-2017>.
- ³⁹ The pattern of geographical distribution of fintech start-ups in ASEAN is corroborated by other studies (Ernst and Young 2018, United Overseas Bank 2017). The United Overseas Bank study, which covered over 400 fintech companies, found that 39 per cent of ASEAN fintech companies originated from Singapore, with Indonesia home to 20 per cent and Malaysia home to 15 per cent).
- ⁴⁰ <https://www.prnewswire.com/news-releases/silot-raises-pre-series-a-funding-from-key-investors-300629649.html>.
- ⁴¹ <https://www.reuters.com/article/us-go-jek-fundraising/google-temasek-investing-in-indonesias-go-jek-as-ride-hailing-rivalry-deepens-sources-idUSKBN1F70GS>. It started operating in Viet Nam in August 2018.
- ⁴² "Tips on the success of doing business with the co-founder of Eat Lah! Charina Prinandita", Entrepreneur, 24 February 2018, (<http://entrepreneur.bisnis.com/read/20180224/88/742615/tips-sukses-berbisnis-ala-co-founder-eat-lah-charina-prinandita>).
- ⁴³ "Remember Tuku Coffee that Jokowi buy? This is the story of the owner behind his success", 7 July 2017 (<https://ekonomi.kompas.com/read/2017/09/07/113000126/ingat-kopi-tuku-yang-dibeli-jokowi-ini-kisah-sang-pemilik-di-balik>).
- ⁴⁴ "Former civil servant becomes Martabak boss", Marketing.Co.Id., 11 August 2017 (<https://marketing.co.id/mantan-pns-jadi-bos-martabak/>)
- ⁴⁵ "Go-Jek buys 3 fintech firms to conquer Indonesia payments", TechinAsia.com, 15 December 2017 (<https://www.techinasia.com/go-jek-acquisition-kartuku-mapan-midtrans>).

CHAPTER 5

Investment and Digital Development Policies in ASEAN

5.1. INTRODUCTION

The digital economy is expanding rapidly in ASEAN Member States, and its contribution to future GDP in the region is expected to grow significantly over the next few years. In light of the significance of the digital sector for their economies, all ASEAN countries are actively promoting and facilitating its development through national digital development plans, institutional and policy support, and investment facilitation. They are also cooperating at the regional level to strengthen the competitiveness of the information and communication technology (ICT) industry, to expand e-commerce and to facilitate digital connectivity in ASEAN.

Governments in the region can foster the development of the digital economy by attracting investment in ICT infrastructure, facilitating access to financing and creating an enabling environment for e-commerce, digital payment systems, start-ups, skills development and efficient logistics to help support the delivery of manufacturers and e-commerce.

Regional integration within ASEAN will also help to realize the full digital potential of the region. The digital economy benefits from economies of scale and network effects, which will grow as trade and regulatory barriers between countries fade, and a larger single market is created. This is evident from the deliveries of goods across the region, where trade facilitation can help to create a larger market for online retailers. This can also be witnessed in order fulfilment with support of online payments and efficient logistics system.

This chapter examines the development of digital policy in ASEAN, particularly in relation to foreign investment. It highlights major national and regional digital policies, as well as challenges that need to be addressed for the region to become a competitive digital hub. This chapter has benefitted from the submission of country papers and materials presented at the UNCTAD–ASEAN Consultative Forum on Investment in the Digital Economy in ASEAN, 12–13 July 2018, Kuala Lumpur, Malaysia.

5.2. POLICY ENVIRONMENT AND DEVELOPMENT

All ASEAN countries have adopted strategies and policies to support the development of the digital economy. Their efforts include facilitating the development of ICT infrastructure, creating an enabling environment for the development of the digital economy and e-commerce, and providing institutional support. The level of policy development and institutional support varies

between countries. Some have more advanced digital policy, implemented comprehensive strategies, adopted multiple complementary plans and provided a broad range of institutional support, while others are relatively new to such developments and are still developing their policy initiatives.

Some of the major policies, goals and institutional support promoting the development of the digital economy by countries in the region include the following:

Brunei Darussalam's long-term development plan, Wawasan Brunei (Brunei Vision) 2035, includes strategies that incorporate ICT and the digital sector to diversify the economy, promote export-oriented industries and streamline government procedures. Digital components include a focus on digital government and the development of small and medium-size enterprises (SMEs), as well as education and investment in ICT. The Brunei Information Technology Council drives ICT development to achieve the goals of Wawasan Brunei 2035.

Telecommunication operators in the country have invested in fibre-to-the-home broadband, which covers 80 per cent of fixed-line clients; mobile network enhancements including 4G; and submarine cables. Brunei Darussalam provides e-government services, and the country's telecommunication regulator is promoting the use of the Internet and e-commerce. The monetary authority has established a fintech unit to facilitate the use of financial technology and has developed a regulatory "sandbox"¹ to help develop companies. Progresif Cellular has developed Progresif Pay and the Bank Islam Brunei Darussalam (BIBD) has developed BIBD NextGen and BIBD Quick Pay to promote digital transactions. The Government has committed to work towards a national single window for trade facilitation to help establish the ASEAN Single Window.

Cambodia aims to transition into a predominantly digital economy with its Digital Cambodia 2023 plan, led by the Ministry of Posts and Telecom. One main goal is to achieve total broadband coverage in urban areas and 70 per cent in rural areas by 2020. The plan also seeks to boost digital literacy among citizens and enhance students' digital abilities in key areas, as well as develop e-commerce to diversify the economy, create new jobs and advance financial inclusion.

The Government is in the process of developing an ICT policy with the objective of providing universal service and access to ICT infrastructure. In addition to opening telecommunication markets to competition and building up international connections, Cambodia is considering developing a national backbone network and a national information network for government, education and research. It is also preparing an e-commerce law, following an UNCTAD Rapid eTrade Readiness Assessment.²

Indonesia launched its Industrial 4.0 Road Map in 2018 through the Ministry of Industry. This comprehensive digital development plan focuses on (i) developing the national digital infrastructure (e.g. accelerating investments in broadband infrastructure, data centres and cloud services); (ii) accelerating the digital transformation of domestic businesses, taking SMEs online and building tech centres to improve their access to technology; (iii) developing the Internet of Things, incubation for SMEs, and human resources for STEM subjects (i.e. science,

technology, engineering and mathematics); (iv) improving intellectual property protection for innovations; and (v) providing fiscal incentives to encourage investment. The road map's digital development policies are managed across multiple government bodies, from the Ministry of Industries to the financial authority.

An e-commerce road map was issued in 2017 through Presidential Decree No. 74/2017, which set out strategies to accelerate e-commerce development, including tax measures,³ consumer protection and the development of a national payment gateway for e-commerce transactions. The central bank is developing a fintech road map, which is a strategy towards a national payment system for e-commerce, thus complementing the 2017 e-commerce road map. The fintech road map will also cover security and risk management related to the payment system, including cybersecurity. The central bank has also put in place regulations on e-money. The lending aspects of fintech are being handled as part of a financial access acceleration programme led by OJK (the country's financial services authority). The country's authorities are optimistic that innovations such as peer-to-peer lending can help improve financial access for the largely unbanked population. OJK also have put in place regulations to ensure responsible fintech innovations and consumer protection for these lending services.⁴

Lao People's Democratic Republic's national strategies and regulatory frameworks on ICT development were implemented recently. The country has mostly adopted ASEAN's ICT and e-commerce related frameworks. Several broad national development strategies are in place for ICT development. They include National Broadband Plan 2012-2020, E-Government Master Plan 2013-2020 and ICT Vision 2030. With the exception of electronic transactions and cyber security, there is currently no strategy or national policy in place for e-commerce.⁵ However, the country is developing an e-commerce law through the Ministry of Industry and Commerce, with support from the Ministry of Post and Communication and other government offices. The government has passed a law on electronic transactions in 2012, enacted in 2016 a Law on Prevention and Combating of Cyber Crime and has in place a Law on Consumer Protection, (passed in 2010), which does not include any disposition to protect consumer online.

Payments in Lao People's Democratic Republic are done mainly in cash and over 60 per cent of the population is unbanked. The government is implementing a guideline for digital financial services (drafted in 2015), which would allow banks and non-banks to develop digital financial services in the country. The country's telecommunication market consists of three fixed line telephone service and broadband providers, and four mobile operators. Telecommunication infrastructure and operations are mainly dominated by the private sector with the government having minority stakes in the leading telecommunication companies. The country encourages private investment in the telecommunication industry, where foreign entry is allowed.

Malaysia has adopted a set of policies that are being implemented to support the development of the country's digital economy. The policies support the development of IT infrastructure, e-commerce and the digital transformation of industries. The Government has created the Digital Free Trade Zone (DFTZ). The country is also creating a digital ID, encouraging investments and talent development, and supporting start-ups and entrepreneurs. For instance, the Malaysia Tech Entrepreneur Programme, introduced in 2017, aims to attract local and foreign start-ups,

and a dedicated platform that provides online training and education modules to guide SMEs to adopt e-commerce and transform their current businesses to potential e-commerce exports. The Government has also established a joint public-private academia initiative to transform Malaysian youth into producers in the digital economy. Broader initiatives include a National Internet of Things Strategic Road Map and a National Big Data Analytics Innovation Network. The Government has set specific digital targets for 2020, such as broadband coverage of 95 per cent of the urban population with speeds of 100 Mbps and 50 per cent of rural households with 20 Mbps. The overall target is for the GDP contribution of the digital economy to grow from 18 per cent in 2016 to 20 per cent by 2020.

Malaysia has multiple complementary plans to develop the digital economy. More efforts will be undertaken to widen access to communications and broadband services in rural areas and plans to establish rural Internet centres across the country. The country introduced a National e-Commerce Strategic Road Map in 2016 that aims at sustaining and improving the competitiveness of the e-commerce ecosystem by fostering close engagement between the Government and the industry players. It covers, among others, efforts towards accelerating SMEs adoption of e-commerce, lifting non-tariff barriers for cross-border e-commerce and promoting national brands. As part of its SME strategy, the Government also organizes #MYCYBERSALE, which encourages SMEs to adopt e-commerce, and operates an e-TRADE programme to increase the participation of SMEs in international e-commerce marketplaces. Malaysia has established the ASEAN Data Analytics Exchange to provide training in data analytics and foster collaboration among stakeholders. The DFTZ, created in 2017, aims to drive export of local SMEs by leveraging on digital technology and opportunities in e-commerce and to attract regional e-commerce trans-shipment investment into Malaysia. On the fintech side, the Government has developed compliance policies for digital currencies, to promote digital payments, and the Financial Technology Regulatory Sandbox to enable experimentation with fintech solutions. It is also supporting the use of a shared payment infrastructure for banks and non-banks, to lower transaction costs and advance financial inclusion. SMEs are being encouraged to adopt digital payments through the use of low-cost payment devices.

In *Myanmar*, the Government issued an Economic Policy in 2016 that focuses on attracting investment and developing skills, and includes a digital government strategy. It established the Digital Economy Development Committee in June 2018 and tasked it with “enabling digital transformation, digital trade, digital government and innovation to develop a digital economy across all sectors for inclusive and sustainable socioeconomic development.” In order to do so, the Committee intends to upgrade infrastructure and human resources, attract more foreign direct investment (FDI) and support the development of start-ups, as laid out in the country’s Digital Economy Development Master Plan. The Government is also rolling out a National Electrification Plan to connect all households by 2030, which will support the development of the digital economy.

In 2018 the Government drafted a Digital Economy Development Master Plan. Part of its strategy is to develop e-government services, including digital ID and cargo clearance through an e-government portal. Computer literacy training has been offered to government employees.

In addition, the objective is to offer digital services in agriculture, livestock and fishery by 2020. A national SME agency will be established in 2020 to help existing companies become digital enterprises. Myanmar is also promoting financial innovation, including mobile financial services, to increase financial inclusion. A Universal Service Fund has been established to increase mobile broadband coverage to 95 per cent of the population by 2022 and enhance digital literacy. Myanmar has also conducted an e-Trade Readiness Assessment with the assistance of UNCTAD.

The *Philippines* has developed an e-commerce road map for 2016–2020 to boost the contribution of e-commerce to GDP from 10 per cent in 2015 to 25 per cent by 2020 and better integrate domestic companies in global value chains. The road map includes plans to bolster digital infrastructure, innovation, data flows and human capital as well as investment to promote Internet access, e-government, e-banking, e-payment, logistics and online capacity-building. The road map also includes measures ensuring consumer protection, data privacy and cybersecurity.

The country does not have a single digital development plan, but a number of relevant initiatives. It has adopted a National Broadband Plan, to be implemented by the Department of Information and Communications Technology, to accelerate the rollout and upgrade of broadband technology. It plans to spend over \$500 million on dark fibre optics in 2019. The country's Inclusive Innovation Industrial Strategy (i3S) from the Department of Trade and Industry, introduced in 2017, aims to grow sectors such as manufacturing and logistics and strengthen their links to global value chains. The Bangko Sentral ng Pilipinas (the central bank) has also taken steps to promote fintech, for instance by reducing compliance rules in certain low-risk situations.

In *Singapore*, the national objective of being the leading digital economy is encapsulated in its Digital Economy Framework for Action, its Digital Government Blueprint and its Digital Readiness Blueprint. The Framework seeks to accelerate the digitalization of every industry, with particular support for SMEs, to help companies to leverage digital technology, and to transform digital businesses. The first Blueprint aims to develop a digital government; and the second aims to make every citizen digitally ready by expanding digital access, improving digital literacy and promoting the adoption of technology as well as expanding digital inclusion. The country's strategic priorities rely on skills development, innovation, and physical and digital infrastructure, as well as robust data privacy laws, cybersecurity and data protection. The Infocomm Media Development Authority and the Government Technology Agency of Singapore are the main bodies implementing the strategy.

The Government has a comprehensive plan to develop the digital economy. It is adopting a nationwide e-invoicing standard for use by all businesses, along with a programme to help SMEs use digital technologies. To assist e-commerce companies with logistics, it is creating an innovative nationwide network of federated lockers for use by parcel operators to leave packages for consumers. The TechSkills Accelerator helps professionals improve their skills and develop digital leadership skills. Additional plans include the Enable IT Programme to help people with disabilities access and use technology.

Thailand has rolled out Thailand 4.0 to foster digital development so that the digital economy contributes 25 per cent of the country's GDP by 2027. The three areas of focus are e-commerce, digital infrastructure and the innovation ecosystem. The Ministry of Digital Economy and Society was established to work on the plan.

As part of Thailand 4.0, the Government is focusing on digital infrastructure. This effort includes a three-year plan to integrate government infrastructure and data to provide effective services for citizens. The plan also include a national broadband initiative to offer affordable and universal access at minimum speeds of 30 Mbps by 2035. The Government also has a significant focus on fintech, developing the national PromptPay e-payment platform to enable efficient money transfers, and the Ministry of Finance is installing payment points to encourage cashless transactions. In order to promote innovation, the Government has opened a fintech regulatory sandbox to enable experiments for new services and products.

Viet Nam views digital transformation as critical to continued growth and prosperity. Without a single overarching plan, recent government decisions and directives have focused on transforming the country and setting targets for IT and broadband development. The plans encompass infrastructure, human resources and foreign investment growth. No single regulation governs all aspects of the digital economy in Viet Nam. Several agencies are involved but the Ministry of Information and Communication is the main agency.

The Government has issued a directive in 2017 asking all heads of the central and local governments to focus on (i) implementing e-government across agencies and uptake of smart technologies across all industries, (ii) building tech skills through STEM education and training from early childhood through adult education, and (iii) building the innovation ecosystem through funding for scientific and research institutions, as well as tech start-ups.

Although all ASEAN countries are pursuing policies and initiatives to enhance digital development, a number of policy challenges remain. First, national strategies do not yet uniformly conform with the best practices of (i) developing a single comprehensive strategy to centralize all plans related to the digital economy and create awareness, (ii) identifying a single agency responsible for leading the implementation of the digital plan to ensure leadership and accountability, and (iii) establishing clear and simple targets against which progress can be measured.

In addition, the digital economies of ASEAN countries are at different stages of development, and policies, laws and regulations vary significantly. An UNCTAD study conducted in 2017 identified strengths, weaknesses, gaps and opportunities to enhance e-commerce in ASEAN, in particular in Cambodia, the Lao People's Democratic Republic and Myanmar (box 5.1). The study also made policy recommendations to develop e-commerce in the region.

Box 5.1. Enhancing the E-commerce readiness in ASEAN

The ASEAN region has made significant progress over the past few years to enhance its e-commerce readiness; however, persistent gaps remain and countries are at different stages of e-commerce development. The extent to which people in ASEAN Member States use the Internet to buy goods and services varies considerably. There is also significant variation in the extent to which governments have adopted relevant policies, laws and regulations to harness e-commerce and the digital economy for development. An UNCTAD survey of ASEAN Member States carried out in late 2017 found that less than 50 per cent of ASEAN countries have a dedicated national strategy for e-commerce. The survey also identified policy challenges in ICT infrastructure (access to affordable broadband Internet and appropriate competition among telecommunication providers), payments (regulations that protect consumers, interoperability of different online and mobile payment modes), legal frameworks (privacy and consumer protection), trade logistics (single windows, de minimis regimes) skills development (capacity-building of policy makers and MSMEs) and access to finance (enabling investment climate for e-commerce and bottlenecks to financing e-commerce ventures).

Box table 5.1.1. summarizes the main findings of the Rapid e-Trade Readiness Assessments carried out by UNCTAD for Cambodia, the Lao People's Democratic Republic and Myanmar. These assessments aimed to enhance the capacity of these countries to assess their strengths, weaknesses, gaps and opportunities in the seven policy areas of the eTrade for all initiative. The table also provides country-specific priorities and policy recommendations, drawn from the Action Matrices included in the individual country assessments. In November 2017, a joint UNCTAD–ASEAN workshop on e-commerce developed a set of policy recommendations aimed at strengthening the ability of ASEAN Member States to engage in and benefit from e-commerce, in line with the ASEAN Economic Community Blueprint 2025 and the ASEAN Work Programme on E-Commerce. These are also presented in the table, along with the seven policy areas of the eTrade for all initiative.

Box table 5.1.1. UNCTAD Rapid e-Trade Readiness Assessments: Cambodia, the Lao People's Democratic Republic and Myanmar

eTrade for all policy areas	Main findings of Rapid eTrade Readiness Assessments in Cambodia, Lao PDR and Myanmar	Recommended country priorities			Overall policy recommendations for ASEAN countries
		Cambodia	Lao PDR	Myanmar	
 E-commerce Readiness and Strategy Formulation	The development of e-commerce policies, initiatives and activities is fragmented. Work on e-commerce is spread across different ministries, departments and agencies, often with parallel and overlapping activities.	Implement the Telecommunications and ICT Development Policy 2020 and the Cambodia ICT Master Plan 2020. Develop a national e-commerce strategy.	Formalize the existing interministerial discussions on e-commerce into a proper task force or committee, involving all relevant government agencies.	Develop a national strategy for e-commerce development. Accelerate e-commerce-related compliance with AEC Blueprint and ASEAN Work Programme on E-commerce.	Develop and adopt strategies and road maps on e-commerce. Each ASEAN Member State should clarify which national institution(s) are responsible for taking the lead in the development of e-commerce readiness. Put in place, where needed, effective coordinating mechanisms among all relevant ministries, and foster discussion with the private sector to identify priorities.
	Urban consumers and businesses enjoy generally high rates of mobile Internet penetration, which has enabled them to begin participating in the digital economy. Rural consumers and businesses, by contrast, often remain cut off from the benefits of e-commerce.	Improve access to and the capacity of ICT infrastructure, and work to lower electricity costs for MSMEs. Increase usage of broadband Internet in the provinces.	Gradually review impact of restrictions on competition in the telecommunication sector (fixed price, limitations on promotion, barriers to new entrants), with a view to remove counter-productive regulations and increase adoption of affordable Internet.	Ensure higher segments of the population outside urban areas have access to fast, reliable (3G, then 4G/LTE) Internet access through mobile phones.	Develop and implement national ICT development plans to promote affordable access to ICT networks and services at sufficient speed. This would reduce disparities in Internet access and open e-commerce opportunities for more segments of the population.
 ICT Infrastructure and Services					/...

Box 5.1. Enhancing the E-commerce readiness in ASEAN (Concluded)

 Payments	A strong cash culture has made it difficult for mobile payments and other cashless solutions to take root. For e-commerce transactions, cash-on-delivery is the most common method of payment, and many consumers remain unaware of the benefits of cashless payments.	Promote adoption of single e-payment gateway with the National Bank of Cambodia. Support banks in investing in infrastructure and improving their ICT systems to conduct transactions in real time.	Establish and maintain an interbank payment system clearing house, and accelerate adoption of industry standards for electronic payments. Launch awareness-raising campaigns of the benefits of cashless payments	Increase the confidence of merchants to accept electronic payments, through dedicated awareness-raising programmes. Review effectiveness and interoperability of existing payment laws and regulations. Promote mobile payments and other cashless solutions.
 Trade Logistics and Trade Facilitation	Last-mile delivery poses a challenge. Physical address systems remain undeveloped, particularly outside urban areas. This makes it difficult to efficiently deliver small parcels resulting from domestic and cross-border e-commerce.	Accelerate implementation of single windows, in particular the possibility to make electronic payments to customers. Improve delivery efficiency and “findability” of address locations.	Review cost structure of local logistics delivery services market, with a view to lowering the barriers to entry that prevent the further development of pick-up, delivery and door-to-door services. Strengthen Myanmar Post to support small parcels for cross-border e-commerce, including the adoption of a self-declaration scheme for customs duties and easy-export/easy-import procedures for MSMEs.	Consider accession or ratification of the Framework Agreement on Facilitation of Cross-Border Paperless Trade in Asia and the Pacific. ASEAN Member States are encouraged to examine the implications of de minimis regulation for cross-border e-commerce.
 Legal and Regulatory Framework	ICT-related policies and laws exist to varying degrees on consumer protection, privacy, data protection, cybersecurity and financial regulation, but most countries do not have a comprehensive legal framework for e-commerce.	Pass the Consumer Protection law and build awareness of the law and its protections. Implement planned changes in customs clearance to make it more cost-effective for MSMEs.	Update e-commerce-related laws to include the most recent e-commerce developments on data protection (privacy), cybercrime and consumer protection. Streamline the regulatory environment for financial service providers and payment service providers, at both the central and state levels.	Consider a review of existing legislation or the adoption of new legislation with a view to harmonizing and modernizing it as appropriate to foster domestic and cross-border e-commerce. Explore the possibilities of developing an ASEAN Regional Framework on cross-border data flows. Undertake a study of the link between e-commerce and taxation and implications for policy, drawing on examples from other ASEAN work streams and international best practice.
 E-commerce Skills Development	IT courses are available in most colleges and universities; however, there is a lack of curriculum dedicated to e-commerce. Courses in important areas such as application development, search engine optimization, data analytics and web-based marketing are uncommon in most tertiary education systems.	Educate consumers on the trustworthiness and advantages of cashless transactions and how to use electronic payment systems. Support education and training of ICT professionals in universities.	Design and deploy a capacity development and mentoring program for start-ups, including coaching sessions and training for business incubators and accelerators. Assess the current e-commerce and ICT skills gap with a view to accelerating the development of curricula in line with the e-commerce industry's needs.	Include e-commerce in tertiary education. New e-commerce courses should be practical and tailored to the local job market, with opportunities for hands-on training.
 Access to Financing	Access to financing remains limited for MSMEs. Established lending practices that favour large firms, high interest rates, strict eligibility criteria and requirements for land or buildings as collateral are some of the barriers faced by MSMEs when they pursue financing with commercial banks.	Strengthen the capacity of business associations to provide access to financial services for members. Empower women-led associations to develop dedicated training and support on e-commerce.	On the model of the A2F funds, develop innovative “Challenge Fund” or “Market Access Fund” for Lao e-commerce and tech start-up development. Increase awareness of incubators, business accelerators and venture capitalists among MSMEs through business associations and targeted information campaigns.	Alternate funding models such as public-private partnerships, innovation grants, loan guarantees, incubators and venture capital should be explored.

Source: UNCTAD

5.3. POLICIES SUPPORTING INVESTMENT IN THE DIGITAL ECONOMY

Besides the formulation of the national strategies enunciated in the preceding chapter, investment in the digital economy relies on a number of specific policy interventions meant to provide a supportive environment. A telecommunication sector open to competition and private operators is a prerequisite to attracting private investment in the expansion and upgrading of ICT infrastructure, enabling the development of digital activities. Development of, and investment in, the digital economy also relies on laws and regulations safeguarding cybersecurity, as well as consumer privacy and data protection. ASEAN countries have also deployed investment policies specifically targeting the digital sector, including promoting investment in e-commerce business and start-ups.

Liberalization of the telecommunication sector

Most ASEAN countries have made significant progress towards liberalizing the telecommunication industry (table 5.1). Liberalization has opened the door to private sector investment – both foreign and local – in the development of the ICT infrastructure (chapter 4), which itself provides the foundation for investment in digital services.

Table 5.1. Liberalization of telecommunications sector in ASEAN, 2017

	Incumbent State-owned	Level of competition			Foreign participation	Independent regulator
		Mobile	Internet services	International gateway		
Brunei Darussalam	Yes	Partial	Partial	Partial	No restriction	Yes
Cambodia	Yes	Full competition	Full competition	Full competition	Restrictions	Yes
Indonesia	No	Full competition	Full competition	Partial	Restrictions	Yes
Lao PDR	No	..	Monopoly	Monopoly	Restrictions	No
Malaysia	No	Full competition	Full competition	..	Restrictions	Yes
Myanmar	Yes	Full competition	Full competition	Full competition	No restriction	No
Philippines	..	Full competition	Full competition	..	Restrictions	Yes
Singapore	No	Full competition	Full competition	Full competition	No restriction	Yes
Thailand	Yes	Partial	Full competition	Full competition	No restriction	Yes
Viet Nam	Yes	Full competition	Full competition	Full competition	No restriction	Yes

Source: ITU.

Myanmar, for example, started liberalizing its telecommunication industry and opening it to foreign participation in 2013, which resulted in significant foreign contributions to the development of the country's ICT infrastructure between 2014 and 2017. Myanmar has attracted some \$3.8 billion in ICT infrastructure investment from countries such as Japan, Norway, Qatar and Viet Nam. As a result, 3G coverage in the country has expanded from 22 per cent of the population in 2014 to 96 per cent in 2017, and Myanmar moved up from ranking ninth in mobile subscriptions in the region to fifth.⁶ Singapore has continued to attract

ICT infrastructure investment by facilitating the entry of a fourth mobile operator with a New Entrant Spectrum Auction, to increase competition and service innovation. At the same time, the Infocomm Media Development Authority continues to assist companies to deploy and repair submarine cable systems that support Internet traffic in the region. Other countries in the region have also actively promoted private investment in the development of telecommunication infrastructure (chapter 4) and the extension of the broadband coverage. In most countries in the region, the development of the telecommunication industry is led by the private sector in strategic partnership with foreign companies.

Many Governments in the region have created national broadband plans that outline specific objectives with respect to national backbone and broadband infrastructure availability (section 5.2). Many of these plans go further than supporting broadband expansion, outlining broader digital development strategies and objectives dealing with Internet adoption by users (including businesses) and the development of digital firms. National broadband plans help to target areas where ICT infrastructure may not be commercially viable, and broader digital development plans help to create demand for online services and provide digital training.

Cybersecurity and data protection

As commerce and business transactions move online, users must be able to trust that their transactions will be binding and protected, and that their privacy and data will be safeguarded. Robust rules and protections are therefore essential to the development of, and investment in, the digital economy.

ASEAN countries have developed cybersecurity laws governing e-transactions, as well as consumer, privacy and data protection, and most also address cybercrime (box 5.2). Although the adoption of such regulations in ASEAN outpaces that in most other regions, gaps remain, particularly in privacy and data protection, a key area for fostering trust in e-commerce and the digital economy:

- In *Brunei Darussalam*, the Electronic Transaction Act 2004 (updated 2008) facilitates e-commerce, but the portion on digital signatures is currently not enforced. Privacy protection is enshrined in laws dealing with specific industries, such as the Banking Act, but the Government is working on a general data protection act.
- *Cambodia* has drafted e-commerce and cybercrime laws, but their enactment was still pending in 2018.
- In *Malaysia*, the National e-Commerce Strategic Road Map includes cybersecurity considerations. The Government is also developing a digital ID to help citizens obtain efficient online services.
- In *Myanmar*, the Digital Economy Development Committee plans to implement data protection, online privacy and e-commerce laws. It will also strengthen cybersecurity awareness and responsiveness.
- The *Philippines* plans to continue strengthening consumer protection, data privacy and cybersecurity as part of its e-Commerce Road Map.

- *Singapore* has established the Personal Data Protection Commission to enforce and review the Personal Data Protection Act 2012 to continually promote consumer confidence in the digital economy. Singapore is launching the GoSecure programme to enable digital solutions companies to improve their cybersecurity capabilities.

Box 5.2. Cyberlaws

UNCTAD has monitored relevant e-commerce laws with its Global Cyberlaw Tracker, in four key categories:

- *E-transaction laws* facilitate online transactions by ensuring equivalence between paper-based and electronic transactions. Overall, 78 per cent of countries have adopted similar regulations.
- *Consumer protection laws* protect consumers engaging in online transactions from fraud and other crimes. Such laws have been enacted in 51 per cent of countries worldwide.
- *Privacy and data protection laws* circumscribe the use of personal data by the organizations gathering the data and protect users from unauthorized use. Worldwide, 57 per cent of countries have developed such protections.
- *Cybercrime laws* address breach and theft of data, money and confidential information, as well as other criminal activities. These protections have been adopted by 72 per cent of countries around the world.

The adoption rates in ASEAN countries outpace the global average adoption rate in some of these categories, such as e-transactions and consumer protection (box table 5.2.1).

Box table 5.2.1. Cyberlaws in ASEAN

	E-transactions	Consumer protection	Privacy and data protection	Cybercrime
Brunei Darussalam	Yes	Yes	No	Draft
Cambodia	Draft	Draft	No	Draft
Indonesia	Yes	Yes	Yes	Yes
Lao PDR	Yes	Draft	No	No
Malaysia	Yes	Yes	Yes	Yes
Myanmar	Yes	Yes	No	Yes
Philippines	Yes	Yes	Yes	Yes
Singapore	Yes	Yes	Yes	Yes
Thailand	Yes	Yes	Draft	Yes
Viet Nam	Yes	Yes	Yes	Yes

Source: UNCTAD.

Source: UNCTAD.

In addition, some countries have already adopted, or are considering, data localization requirements, which oblige digital firms to store and process local data within the same country. Some laws stipulate specific conditions under which data can be transferred out of a country. Often, such requirements are motivated by privacy or national security considerations.

Investment policies

Countries in the region are actively seeking to boost domestic and foreign investment in the digital economy. In addition to considering embedding investment policy into their digital development strategies, they have included digital development in their investment policies. For example, the Malaysian Investment Development Authority is promoting logistics companies (which include offering investment incentives) to help support e-commerce in the Digital Free Trade Zone. In addition to general investment facilitation, ASEAN countries also focus specifically on supporting digital start-ups and micro, small and medium-size enterprises.

Investment policies promoting digital economy are broad-ranging and vary across countries. ASEAN countries facilitate digital investment through a variety of efforts that include financial incentives for venture capital investment and technology research, tax and import duties exemptions, financing and capacity-building for SMEs, as well as the development of tech hubs or digital zones such as the Digital Park Thailand and the Malaysia Digital Free Trade Zone. Efforts to facilitate investment are also apparent in e-government services, which include information portals for businesses and investors, as well as online registration for new companies. Specific countries' efforts to facilitate digital investment include the following:

- In *Brunei Darussalam*, the Government established Darussalam Enterprise (DARE), which offers SMEs financing and capacity-building, and provides investment incentives to attract ICT and FDI into high-tech activities.
- *Cambodia* is developing a plan to help start-ups and SMEs. Institutional support and assistance will include a government contribution of \$6–7 million (financed from telecommunication operator contributions) to private sector funds, along with tax incentives. A number of other measures are also being considered to promote start-ups.
- In *Indonesia*, e-commerce, in which foreign investments were previously restricted, is now open for large deals (above \$700,000) that satisfy joint venture requirements.
- The *Lao People's Democratic Republic* has updated its Investment Promotion Law and is also working on trade facilitation as a way to support SMEs in accessing the broader regional market.
- *Malaysia* is actively promoting investment in the digital economy and is offering tax incentives, which include capital allowances on the purchase of ICT equipment and software for digital transformation. Tax exemptions are provided for start-ups. Also available are tax incentives for manufacturing and services companies to acquire new technologies for their operations as well as income tax exemptions and import exemptions on broadband and related equipment. In addition, venture capitalists investing in e-commerce and digital economy start-ups receive income tax exemptions. Incentives also include a fund promoting the creation, production and distribution of digital content. The country has established the Malaysia Tech Entrepreneur Programme and the Malaysia Digital Hub to support start-ups. The Malaysia Digital Economy Corporation is actively helping start-ups grow through digital technology

education and is also designed to assist Malaysian technology and digital companies in expanding into other markets.

- The Investment Commission of *Myanmar* issued a notification to classify telecommunication infrastructure and information technology services as promoted sectors for investment. The Government plans to develop a Digital Economy Investment Promotion Policy in 2020 and open the Yangon Innovation Centre for digital entrepreneurs.
- In the *Philippines*, the Board of Investments formulates the Investments Priorities Plan (IPP), a three-year rolling plan (2017–2019), with the theme “Scaling Up and Dispersing Opportunities”, which outlines the sectors that are priorities for investment and development. The 2017 IPP includes digital activities, including content development and digital start-ups. Qualifying companies may receive an income tax holiday of four to eight years and can import capital goods without duties. The Department of Trade and Industry also has a Start-up Ecosystem Development Programme to assist entrepreneurs and MSMEs, which includes supporting the QBO Innovation Hub.
- In *Singapore*, the Infocomm Media Development Authority is spearheading investment to support the country’s “Smart Nation” initiative.⁷ In addition, Temasek Holdings, the national investment fund, owns shares in ICT infrastructure companies, including SingTel, and through its venture capital arm, Vertex Holdings, invests in IT opportunities both in Singapore and in the region.
- In *Thailand*, the Board of Investment offers a wide range of tax and non-tax incentives to help develop the digital economy. This includes tax breaks and import duties exemptions on equipment and materials for investments in tech parks, data centres, cloud services and other digital services. Non-tax incentives supporting digital investment include work permits for foreign workers, and land ownership permits and no equity restrictions for foreign investors. These incentives also extend to e-commerce projects. The Government also supports the development of Digital Park Thailand as a home for global investments in eight digital sectors, with special tax privileges and other benefits.
- *Viet Nam* is actively seeking to attract investment to support the development of broadband infrastructure by 2020 and of a domestic digital ecosystem. Besides tax incentives, the Government has pledged to spend money on the ICT sector, encouraging local and international firms to invest in the country. It has set up a number of initiatives, including the National Technology Innovation Fund (\$47 million) and another fund to support start-ups in Ho Chi Minh City (\$45 million). It also plans to invest in research and technologies to support the fourth industrial revolution in the country. The Ministry of Science and Technology has established a Silicon Valley type start-up ecosystem to stimulate the creation and growth of tech start-ups.

5.4. REGIONAL DIGITAL COOPERATION AND POLICY DEVELOPMENT

ASEAN's integration efforts seek to develop a single regional market with free movement of goods, services and investment, as well as freer flows of capital and skills across the region. The integration can significantly facilitate the development of the digital economy in ASEAN by creating a larger market, unlocking economies of scale and facilitating network effects, which would foster more investment.

The ASEAN Community, launched in 2015, includes the ASEAN Economic Community (AEC), in which the ICT sector is acknowledged as critical to facilitate regional integration. Cooperation on ICT within ASEAN started before 2000, leading to the adoption of an e-ASEAN Framework Agreement in 2000, as well as successive five-year ICT master plans. The Framework Agreement focused on ASEAN's information infrastructure, facilitating the growth of e-commerce, and promoting investments in digital products and services.⁸

The first ASEAN ICT Master Plan (2010–2015) focused on infrastructure development and bridging the digital divide. Building on the progress made and on the establishment of the AEC, the more recent ASEAN ICT Master Plan (2016–2020) – or AIM 2020 – focuses more broadly on developing an integrated digital economy. The objective of AIM 2020 is to propel ASEAN towards a digitally enabled, secured and transformative economy; and to enable an innovative, inclusive and integrated ASEAN Community. The plan's five key outcomes, to be achieved by 2020 are the following:⁹

- Build an accessible, inclusive and affordable digital economy with a sustained agenda of digital education in schools, re-skilling in next-generation telecentres and ICT to support digital inclusion and social equality.
- Deploy next-generation ICT such as in education and training, government service delivery and health care provisioning, and embrace next-generation ICT and innovatively apply new technologies.
- Promote sustainable development through smart city technologies and development of next-generation ICT such as sensor networks and the Internet of Things.
- Create multiple ICT opportunities across a single regional market by enabling an interconnected and interoperable digital economy.
- Secure digital marketplaces and ensure the safety of online communities to support ASEAN trade facilitation platforms, and promote and protect inter- and intraregional digital trade.

The strategy to achieve these outcomes includes, within a single market, (i) undertaking efforts to develop ICT infrastructure, bridge digital divides within and across countries, and make all citizens digitally literate to advance ICT availability in the region and reduce inequality; (ii) fostering entrepreneurship, workforce training and the development of new media and digital content to stimulate new companies and ensure traditional companies benefit from the digital economy; and (iii) addressing cyberthreats to develop a trusted digital ecosystem.

To support the development of e-commerce within the emerging single market, ASEAN has adopted the Work Programme on Electronic Commerce 2017–2025.¹⁰ It seeks to develop and implement specific initiatives, guidelines and coordination mechanisms related to broadband infrastructure, consumer protection, the modernization of e-commerce legal frameworks, the security of electronic transactions, payment systems, trade facilitation, competition and improved logistics. The work programme also includes the development of an ASEAN agreement on e-commerce, to promote cross-border transactions and digital connectivity by adopting trade rules on e-commerce. The agreement is expected to be signed later in 2018.

Furthermore, the ASEAN Framework on Personal Data Protection was adopted in 2016. It recognizes the importance of personal data protection, security safeguards and accuracy of personal data in the region. It aims to contribute to the promotion and growth of regional trade and flows of information. In addition, Singapore is leading in the development of the ASEAN Framework on Digital Data Governance to harmonize data regulations, expected to be completed in 2019. The two frameworks will help foster consumer confidence and digital usage.

Policy recommendations

Although much has been done in ASEAN to develop and promote the digital economy regionally and nationally, significant challenges remain to be addressed if the region is to fulfil its potential and become a competitive digital hub. The provision of telecommunication networks or infrastructure that connects all citizens remains a gap in investment in the region. The investment needed to build networks (submarine cables, national fibre-optic backbones, and mobile and wired broadband access networks), upgrade technology and expand capacity (to meet the growing data demand) to support digital development is high. Attracting investment through FDI and foreign technology can be an option.

In some cases, the private sector has been reluctant to build ICT infrastructure in remote areas that are not commercially viable. Public investment would be needed, or otherwise public–private partnership arrangements with investment incentives can be considered as a modality to entice private sector participation. Governments may consider licensing additional operators in specific wholesale and retail markets where there is insufficient investment or implementing effective universal service programmes based on best practices to ensure broadband access in remote and rural areas.

Other policy gaps and recommendations can be considered to develop a competitive regional e-commerce economy (see box 5.1). They cover policy proposals such as to enhance e-commerce readiness and strategy formulation, as well as ICT development plans, to review the interoperability of payment systems, to develop e-commerce skills and to expand access to financing. Other challenges and gaps that need to be considered emanated from the Consultative Forum on Investment in the Digital Economy in ASEAN, held in Kuala Lumpur in July 2018 (box 5.3).

Continued expansion and upgrading of ICT infrastructure by countries in the region, including in attracting investment, is important to strengthen the regional e-commerce environment and help narrow the digital divide. Regional integration, the full realization of AEC-2025 and successful implementation of the various regional digital-related agreements and master plans will significantly advance digital connectivity and development in the region. Cooperation in the development of cross-border e-commerce, robust online payment systems and strengthened cybersecurity as well as consumer data protection would enhance user's trust – key elements to strengthen ASEAN's digital connectivity.

Box 5.3. ASEAN: Challenges of the digital economy

In the discussion at the UNCTAD–ASEAN Consultative Forum on Investment in the Digital Economy in ASEAN held in July 2018, some key issues, concerns and suggestions were highlighted. They included the following (not ranked in order of importance):

- The need to attract and channel investment to develop suitable digital infrastructure (e.g. from 3G to 4G or 5G technology and to provide universal access to all). In some countries, this relates to investment in upgrading of technology while in others (the CLM countries) it relates to building the digital infrastructure and ecosystem from an early stage.
- There are wide gaps between ASEAN Member States in terms of digital development – some are more advanced while some are at the early stage of digital development. These differences also contribute to institutional complexity between countries. Experts in the forum discussed whether there is an institutional set-up that can handle the complexity and interconnection of digital economy issues, including at the regional level.
- Proper definition of terms (e.g. what does e-commerce entail, what is the digital economy?) and their usage.
- The possible implications of digital commerce for taxation and tax collection need to be better understood. Any regulation on related tax issues should not be overdone so as not to hinder development of the digital economy (regulation versus development).
- The importance and challenges of e-payment systems in supporting the development of a competitive digital economy need to be recognized. In some cases, e-payment systems are helping to reach unserved or unbanked citizens. However, e-payment systems also pose challenges in terms of regulatory issues and concerns about the potential disruptions to the existing financial system.
- The need to build online trust and develop suitable talent and skills to support a strong e-commerce environment and ecosystem.
- The need to support SMEs in their participation and capability by reaping the opportunities of the digital economy in expanding their market reach. Digital technology can be an effective way for SMEs to sell or engage in cross-border e-commerce. Key questions remain as to how to maximize the opportunities that e-commerce can bring to SMEs and local enterprises and what would be needed to strengthen their capacity to more effectively utilize digital development?

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Box 5.3. ASEAN: Challenges of the digital economy (Concluded)

- In moving forward with digital development, there is a need to address data protection, including data ownership and data residency issues so as to protect users. However, there is a need to balance these against policy considerations.
- The roles of start-ups and support for them are important in the development of the digital economy, especially in e-commerce and fintech. Countries in the region need to strengthen their efforts to promote and support start-ups, including expanding access to finance.
- The roles of venture capital and private equity investment in the development of the digital ecosystem (particularly for start-ups) are becoming more significant than in past decades. They are emerging sources of finance for start-ups, which have been limited in their access to finance from traditional financial institutions.
- Governments have a role to play to facilitate, support and provide an enabling environment for the digital economy to grow, including getting involved in active consultation with the industry and private sector.
- Given the rapid growth of the digital economy, efforts towards the collection of relevant data (including in investment) need to be enhanced to help assess and guide future policy development.

Source: UNCTAD–ASEAN Consultative Forum on Investment in the Digital Economy in ASEAN, 12–13 July 2018, Kuala Lumpur, Malaysia.

The push towards a single digital market is important for regional integration, and vice versa. In its AEC Blueprint 2025, ASEAN is committed to addressing a number of key areas, which include the free movements of goods, services, investment and labour.¹¹ In particular, integration must focus on promoting coherent and comprehensive digital strategies as well as legal and regulatory frameworks; further development of the ICT infrastructure; developing robust and compatible payment systems; facilitating flows of data, goods, skills and capital; and encouraging skills development and access to financing. This requires the implementation of common frameworks and standards, sustained investment and enhanced cooperation.

Although most Member States have adopted digital strategies, best practices have not been adopted uniformly. Progress remains to be made on three fundamental elements: (i) adopting a single comprehensive strategy to centralize all plans and create awareness, (ii) identifying a single agency responsible for leading the implementation of the plan to ensure leadership and accountability, and (iii) establishing clear and simple targets against which progress can be measured.

More coherent laws and regulations would advance the region towards a single digital market. For instance, licences to offer online services across the region can be streamlined for companies to offer region-wide services, such as enterprise networks or cloud services. Greater coherence in regulations on data protection and privacy, consumer protection and e-signatures across the region would help bolster trust and cross-border sales. Fostering the interoperability of mobile money services and acceptance of digital IDs would promote their usage, while streamlined financial regulations could create larger pools of venture capital

resources. Addressing broader logistics barriers is necessary to help e-commerce companies with fulfilment and delivery. Alignment of policies across the region will help increase the reach and lower the cost of developing the digital economy, providing development opportunities to span the digital divide, while creating regional companies that are able to grow and access global markets. Addressing the shortage of digital talent in the region will further the development of the region's digital economy. For instance, Malaysia has established the Go eCommerce platform and the Digital Maker Programme to develop digital skills in the workforce. Some countries with more advanced digital environments are implementing multiple and complementary initiatives, while others are identifying or developing early-stage initiatives and policies. Exchange of information and best practices among ASEAN countries can be useful in moving the region forward in digital development and in bridging the digital divide.

ASEAN countries can also work together to mitigate the potential downsides of the digital revolution such as the impacts of growing e-commerce on traditional retail and other industries (table 5.2). Regional cooperation is also needed to provide more and better-quality data on the digital economy, e-commerce and fintech to support policy development.

Table 5.2. Potential downsides of development in the digital economy (Selected issues)

Issue	Public policy concerns	Investor concerns	Mitigating factors
Impact of e-commerce on retail	Loss of jobs and competitiveness in traditional retail	Level playing field with traditional retail; opportunity to grow overall sector	Traditional retail lags other regions
Foreign acquisitions of local champions	Loss of local and regional champions	Policies to deter or limit investments	Skills and knowledge transfer from acquiring firms
Digital divide	Investment focuses on two or three countries in the region	Requirements such as data localization laws that limit economies of scale	Investments needed in each country for ICT infrastructure and to support e-commerce
Taxation	Revenues and tax flow to countries with regional headquarters	Fluctuations in tax rates resulting in uncertainty	The EU and OECD have been addressing this issue

Source: ASEAN Investment Report 2018 research.

5.5. CONCLUSION

In light of the significance of the digital economy and its development in the region, ASEAN countries have been actively promoting and fostering an enabling environment for digital investment. They have done so by developing national digital plans, adopting policies and measures to facilitate and encourage digital investment, and moving towards further regional integration and cooperation on digital connectivity.

Most ASEAN Member States have developed digital strategies. They have been liberalizing their telecommunication industries and are actively promoting private investment in the development of ICT infrastructure to further broadband coverage and upgrade telecommunication technology. They have plans and initiatives to attract investments in e-commerce, in e-payment and in other areas of the digital ecosystem. In particular, they have adopted policies and established

institutions to further digital investment, with tax incentives, skill development programmes, e-government procedures, public investment, and laws and regulations related to cybersecurity and data protection.

Although much work remains to be done, regional efforts towards greater coherence and deeper integration are advancing the region towards the development of a more connected digital market and facilitating cross-border commerce. Regional cooperation on ICT was initiated in the 1990s, starting with the e-ASEAN Framework Agreement adopted in 2000. Since then, regional cooperation on digital matters has strengthened with the adoption of the ASEAN Framework on Personal Data Protection, the ASEAN Framework on Digital Data Governance, a series of five-year ASEAN ICT Master Plans and a Work Programme on Electronic Commerce 2017–2025, which includes developing an ASEAN e-commerce agreement.

A number of policy challenges remain, however. First, some national strategies do not uniformly adhere to the best practice of (i) developing a single comprehensive strategy to centralize all plans related to the digital economy, creating digital awareness and trust, (ii) identifying a single agency responsible for leading the implementation of the digital plan to ensure leadership and accountability, and (iii) establishing clear and simple targets against which progress can be measured.

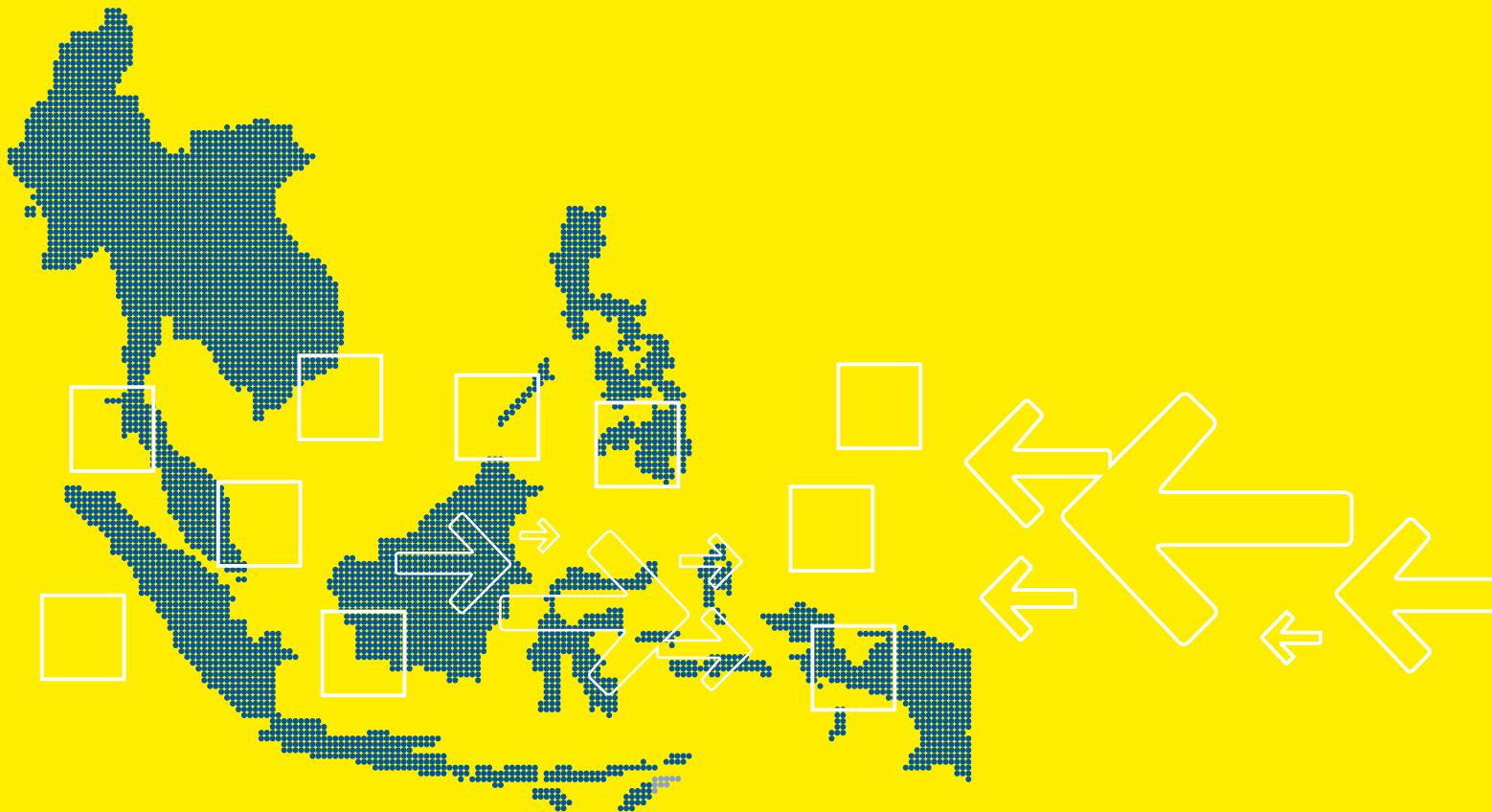
Second, ASEAN countries' digital economies are at different stages of development, and policies, laws and regulations vary significantly. Some are already implementing more comprehensive and integrated strategies with multiple and complementary digital plans, while others are at the early stage of digital development and are developing policies and initiatives to build a digital economy. Recognizing the policy development differences, regional cooperation and implementation of the various regional digital-related frameworks, including through greater alignment, are contributing to addressing the digital divide. Regional sharing of experiences and best practices on digital development between countries can be useful to the least developed Member States to develop and attract investment into the digital economy, hence narrowing the differences.

Third, the development of e-commerce in the region suffers from a skills shortage, a relatively low trust in online transactions and logistical bottlenecks, including delivery and payment systems. National and regional policies must carefully manage the digital revolution's potential downsides such as the impacts of e-commerce on traditional retail and other industries. Further domestic and foreign investment, and further regional cooperation and integration, are necessary to address these challenges, so the region can fulfil its significant digital potential. Policies to promote investment in digital development, which tend to address investor interests, should be balanced with measures that also address public policy concerns.

NOTES

- ¹ A regulatory “sandbox” is a framework set up by a financial sector regulator to allow small-scale, live testing of innovations by private firms in a controlled environment under the regulator’s supervision.
- ² See <http://unctad.org/en/Pages/Publications/E-Trade-Readiness-Assessment.aspx>. UNCTAD has also done assessments for Myanmar and the Lao People’s Democratic Republic.
- ³ Ministry of Communications and Informatics No. 3/2016 regulates foreign over-the-top services (OTT or app-based services) to be taxable in Indonesia – an effort to ensure a level playing field for domestic and foreign OTT services.
- ⁴ OJK Regulation No.77/POJK.01/2016.
- ⁵ UNCTAD (2018). Lao People’s Democratic Republic: Rapid eTrade Readiness Assessment (United Nations: New York and Geneva, 2018) (https://unctad.org/en/PublicationsLibrary/dtltstict2018d3_en.pdf)
- ⁶ Michael Minges (2018), “Investment in the digital economy infrastructure in ASEAN” presented at the Consultative Forum on Investment in the Digital Economy in ASEAN, 12–13 July 2018, Kuala Lumpur, Malaysia.
- ⁷ See <https://www.imda.gov.sg/infocomm-and-media-news/buzz-central/2016/6/investing-in-ict-for-smart-nation-growth>.
- ⁸ See “e-ASEAN Framework Agreement”, ASEAN, agreed in Singapore on 24 November 2000, at the Fourth ASEAN Informal Summit.
- ⁹ The ASEAN ICT Masterplan 2020 (ASEAN Secretariat: Jakarta), 2015.
- ¹⁰ See <http://asean.org/asean-economic-community/sectoral-bodies-under-the-purview-of-aem/e-Commerce/>.
- ¹¹ See <http://investasean.asean.org/index.php/page/view/asean-economic-community/view/670/newsid/755/about-aec.html>.

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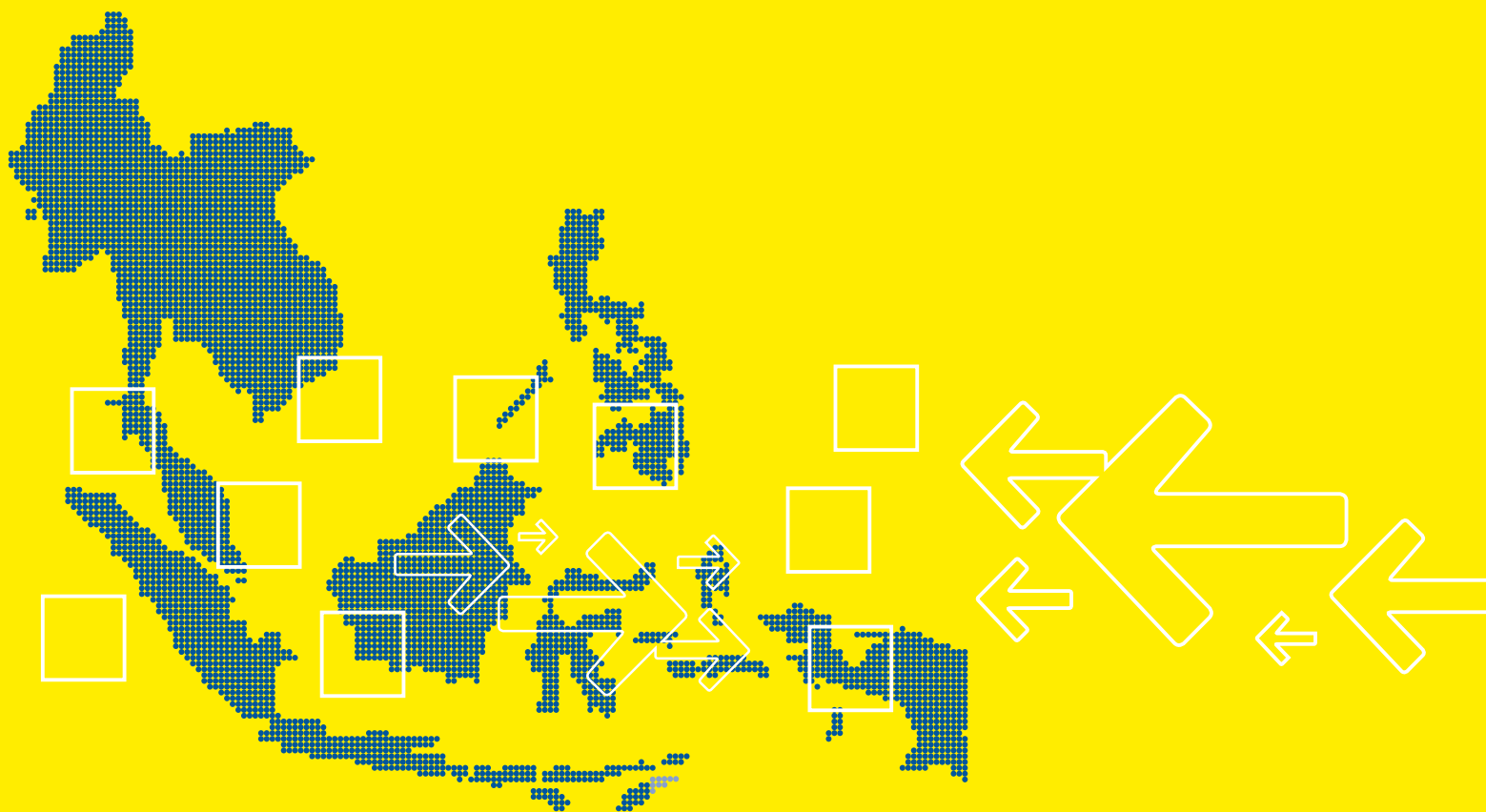


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ANNEXES



Annex table 1.1. FDI flows in ASEAN, by source and industry, 2016-2017 (Millions of dollars)

2016		Source country																
Economic sector	United States	Japan	European Union	Emerging Markets of East Asia										New Zealand	Russian Federation	ASEAN	Canada	Total
				Republic of Korea	Hong Kong (China)	Taiwan Province of China	China	India	Australia									
Agriculture, forestry, and fishing	6.0	11.5	42.2	49.9	-402.8	3.7	75.2	4.8	0.9	..	0.9	2,752.6	0.2	2,683.3				
Mining and quarrying	-902.5	615.2	844.4	43.0	-38.6	2.8	110.9	2.9	-1,15.9	-1.4	-0.4	1,216.6	-24.9	3,921.4				
Manufacturing	-685.3	5,207.9	-1,117.0	2,886.3	1,557.4	864.6	1,122.8	53.7	443.2	31.3	17.9	6,613.4	80.9	20,167.9				
Electricity, gas, steam and air conditioning supply	10.1	61.0	-210.3	175.6	30.8	19.1	491.5	0.4	2.1	0.1	0.2	113.8	0.3	1,047.3				
Water supply including sewerage and waste management	-7.4	29.2	78.6	87.2	27.5	19.3	16.2	1.1	4.9	0.2	0.6	88.8	1.5	397.5				
Construction	8.7	-204.8	-371.9	-657.7	392.2	-21.8	661.8	10.0	55.0	0.2	0.8	113.0	10.4	40.8				
Wholesale and retail trade	3,280.8	2,846.4	7,360.3	1,738.2	1,376.8	1,233.0	1,766.8	-32.7	-53.2	102.0	2.3	1,766.8	-34.6	22,188.9				
Transportation and storage	353.3	537.0	-415.9	206.8	11.6	323.9	-57.6	-26.4	-135.4	0.4	1.1	199.0	-16.1	242.0				
Accommodation and food service activities	48.8	55.5	15.3	93.9	72.4	16.1	809.0	0.9	3.9	0.2	0.5	227.2	0.7	1,431.2				
Information and communication	337.9	178.4	37.7	20.1	980.2	14.0	29.1	2.8	-8.7	-1.8	0.4	231.7	0.4	1,888.0				
Financial and insurance activities	17,004.8	15,66.7	14,565.9	1,056.2	4,135.2	1,104.7	3,441.2	-1,115.2	-385.2	137.6	-3.0	5,412.6	1,209.0	41,377.2				
Real estate activities	538.3	487.9	463.2	304.9	1,041.0	271.8	2,418.0	271.0	139.9	-8.4	23.8	3,457.9	44.5	10,768.8				
Professional, scientific and technical activities	-39.2	46.3	36.4	145.1	63.0	37.1	53.1	0.1	7.9	0.6	1.4	140.9	-85.3	516.0				
Administrative and support service activities	32.9	41.2	83.0	25.5	-94.5	6.7	7.7	-0.4	4.3	0.1	0.3	51.0	0.3	209.9				
Public administration, defence, social security	..	..	18.4	..	..	..	..	..	..	..	..	6.4	..	24.8				
Education	0.6	4.9	3.5	9.1	2.1	2.4	2.4	-2.2	0.6	..	0.1	16.7	6.0	65.2				
Human health and social work activities	-0.8	-252.5	36.0	7.8	33.8	2.1	6.5	1.9	0.7	..	0.1	56.0	0.1	-105.2				
Arts, entertainment and recreation	2.8	22.7	9.6	49.4	583.6	13.0	13.6	0.7	3.1	0.1	0.4	11.0	0.5	727.2				
Other services activities	-2,274.4	1,190.1	12,037.8	68.9	-1,571.1	-24.4	95.4	814.5	1,584.4	-137.0	15.9	1,350.2	1.3	9,475.0				
Unspecified	1,052.0	1,638.9	1,553.6	76.3	284.6	73.2	6.3	-9.2	21.3	0.5	0.3	341.4	20.7	5,736.9				
Data suppression	43.3	16.0	839.0	155.5	150.0	0.7	205.5	1.6	0.7	51.9	..	1,682.9	-177.7	..				
Total	18,810.7	14,099.5	35,909.6	6,542.0	8,635.1	3,961.8	11,275.5	-19.7	1,574.6	176.8	63.4	25,850.0	1,037.9	122,804.3	f...			

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Annex table 1.1. FDI flows in ASEAN, by source and industry, 2016–2017 (Millions of dollars) (Concluded)

Source country	2017													
	Emerging Markets of East Asia													
Economic sector	Japan	United States	European Union	Republic of Korea	Hong Kong (China)	Taiwan Province of China	China	India	Australia	New Zealand	Russian Federation	ASEAN	Canada	Total
Agriculture, forestry, and fishing	29.2	13.8	56.4	33.9	-540.4	3.2	239.0	4.9	2.8	..	0.1	4,228.5	0.1	4,220.6
Mining and quarrying	648.9	-3,162.3	3,726.0	-273.0	536.1	21.3	368.6	9.2	192.0	47.9	1.3	123.8	-36.1	4,209.0
Manufacturing	6,120.3	-4,959.0	7,646.4	2,203.5	1,390.3	581.9	1,594.9	65.1	-50.4	-106.3	8.5	8,649.9	-1.9	31,618.9
Electricity, gas, steam and air conditioning supply	951.1	77.2	2135.6	850.7	209.0	131.3	673.9	17.2	14.1	0.3	4.0	717.3	4.2	6,453.1
Water supply including sewerage and waste management	58.6	2.9	300.1	53.2	14.9	9.5	17.0	1.2	0.8	..	0.3	40.0	-0.1	548.1
Construction	520.8	90.2	94.3	110.3	116.4	17.4	719.5	-0.7	1.4	..	0.5	627.3	0.5	2,519.6
Wholesale and retail trade	4,272.9	10,244.7	6,606.6	1,332.3	338.6	652.2	2,783.8	246.1	1,582.9	38.1	1.2	2,461.2	62.3	38,950.7
Transportation and storage	-546.9	239.4	-190.6	108.4	98.6	-13.4	1.0	-195.8	33.8	-0.1	0.2	302.5	27.7	490.3
Accommodation and food service activities	108.4	-0.7	21.6	69.6	43.9	15.2	28.7	1.0	0.9	..	0.2	4.5	0.2	550.0
Information and communication	462.3	10.9	202.5	15.0	87.1	7.4	144.9	6.2	6.1	0.1	-13.0	104.3	0.4	1,107.4
Financial and Insurance activities	-2,314.9	2,069.5	-854.0	144.1	3,001.0	215.3	1,607.3	660.6	670.1	353.5	-1.9	2,554.6	1,083.2	15,610.3
Real estate activities	871.8	967.7	272.5	320.3	1,625.6	465.3	3,053.4	313.1	107.7	2.7	31.0	2,800.3	63.5	12,233.9
Professional, scientific and technical activities	108.4	-134.8	431.1	130.1	31.4	16.6	58.8	-2.5	-1.2	..	2.8	147.7	-112.5	859.1
Administrative and support service activities	44.6	-24.2	30.9	10.6	-108.0	1.8	2.9	0.3	0.8	..	0.1	36.8	1.1	269.9
Public administration, defence, social security	..	..	33.5	..	..	..	..	..	..	..	..	0.2	..	34.2
Education	13.2	1.1	9.6	11.2	1.9	1.9	7.0	-5.4	0.2	..	0.1	14.6	23.3	96.5
Human health and social work activities	102.7	0.3	15.6	36.0	6.4	6.5	18.8	2.4	0.8	..	0.2	111.9	0.2	326.7
Arts, entertainment and recreation	27.2	-1.9	4.6	3.6	-0.7	1.0	0.9	0.5	2.2	..	..	3.2	..	41.3
Other services activities	1,688.9	-843.1	4,206.4	15.1	714.4	88.2	-327.5	695.8	-468.1	-8.8	9.0	1,541.4	3.5	10,029.6
Unspecified	..	..	..	..	..	..	..	..	..	..	..	..	..	6,837.0
Data suppression	44.5	791.7	693.4	172.3	201.2	5.3	302.5	3.3	3.4	-1.3	..	2,090.6	-100.6	..
Total	13,212.2	5,383.4	25,442.6	5,347.3	7,767.9	2,228.0	11,295.3	1,822.5	2,100.4	326.2	44.6	26,560.8	1,018.9	137,006.2

Source: ASEAN Secretariat, ASEAN FDI database.

Annex table 1.2. Intra-ASEAN investment, by investing country and industry, 2016-2017 (Millions of dollars)

Industry	2016											Total
	Source country	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam	
Agriculture, forestry, and fishing		0.7	0.1	0.1	0	272.6	0	0.1	2,326.2	27.3	125.5	2,752.6
Mining and quarrying		-0.2	0	38.6	0	280.9	-0.2	0.1	320.3	547.6	29.5	1,216.6
Manufacturing		1,12.1	-11.8	0.5	4.7	401.3	3.7	52.5	5,375.7	594.2	42.9	6,613.4
Electricity, gas, steam and air conditioning supply		0.9	0	0.5	0	1.1	0	0.2	95.4	15.8	0	113.8
Water supply; sewerage, waste management and remediation activities		3.3	0.2	0.2	0.1	14.4	0	0.6	62.6	7.4	0	88.8
Construction		3.9	0.2	-0.4	0.2	0.8	-0.4	3.8	92.4	11.4	1.2	113.0
Wholesale and retail trade; repair of motor vehicles and motor cycles		9.5	0.6	17.7	0.6	95.1	-0.1	11.3	1,238.2	335.5	58.5	1,766.8
Transportation and storage		5.9	0.3	-18.4	0.3	2.8	-1.0	6.8	118.7	82.8	0.3	199.0
Accommodation and food service activities		-0.3	0.1	0.2	0.1	8.0	0	0.5	206.4	12.0	0.1	227.2
Information and communication		2.5	0.1	-0.3	0.2	123.0	0	0.3	142.9	7.5	-44.5	231.7
Financial and insurance activities		9.4	0.2	845.6	14.7	1,391.4	33.3	104.5	1,665.9	1,367.4	-22.5	5,412.6
Real estate activities		20.5	3.4	665.5	2.2	1,332.0	24.6	9.8	1,229.8	26.1	0.6	3,457.9
Professional, scientific and technical activities		6.9	0.3	-7.9	0.3	19.8	0	1.9	110.6	10.4	-1.4	140.9
Other services		45.8	0.4	76.4	0.3	494.9	-8.0	76.0	618.2	65.0	54.1	1,491.3
Unspecified and data suppression		17.7	-1.5	2.3	0	87.9	0.1	49.1	181.4	213.2	61.6	2,024.3
Total		238.5	-7.4	1,620.6	23.9	4,526.0	52.0	317.4	15,414.8	3,323.6	305.7	25,850.0

Industry	2017											Total
	Source country	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam	
Agriculture, forestry, and fishing		0.1	0	0	0	390.4	0	0.1	3,690.7	30.0	117.2	4,228.5
Mining and quarrying		0.7	0.1	202.8	0.0	222.6	-0.1	1.4	-368.2	40.2	24.4	125.7
Manufacturing		13.8	4.3	1,045.7	0.3	330.3	1.5	86.9	6,638.6	526.9	-3.6	8,649.9
Electricity, gas, steam and air conditioning supply		4.3	0.6	4.9	0	29.4	0	2.8	505.0	170.3	0	717.3
Water supply; sewerage, waste management and remediation activities		0.3	0	0.3	0	2.0	0	0.2	30.3	6.9	0	40.0
Construction		2.0	0.1	1.0	0	528.0	2.7	5.1	68.4	20.4	-0.9	627.3
Wholesale and retail trade; repair of motor vehicles and motor cycles		11.3	5.2	806.9	0	297.5	1.5	-53.5	3,193.6	-1,767.9	-33.3	2,461.2
Transportation and storage		0.2	0	40.2	0	68.9	0.9	12.8	145.1	25.9	4.2	302.5
Accommodation and food service activities		-2.7	0	0.3	0	-13.6	0	0.2	8.2	12.2	0	4.5
Information and communication		0.2	0	2.1	0	0	-0.1	0.3	97.9	2.5	1.2	104.3
Financial and insurance activities		-17.0	0.3	-1,989.4	0.4	943.3	11.8	-202.8	1,419.1	2,299.6	89.5	2,554.6
Real estate activities		9.4	9.5	226.4	5.7	1,218.8	-6.0	1.5	1,133.1	46.2	0.3	2,800.3
Professional, scientific and technical activities		0.1	0.1	7.0	0	1.7	0	0	141.0	-2.0	-0.1	147.7
Other services		-0.1	0	332.6	0.3	-69.7	261.6	460.0	304.8	101.2	14.3	1,708.1
Unspecified and data suppression		14.7	0.5	1.5	0	150.5	0	66.5	1,294.1	735.8	256.0	2,090.7
Total		37.4	20.8	682.3	6.7	4,104.7	273.9	381.5	18,301.5	2,248.3	469.3	26,562.7

Source: ASEAN Secretariat; ASEAN FDI database.

Annex table 1.3. Net cross-border M&As in ASEAN, by industry, 2014–2017 (Millions of dollars)

Industry	Net Sales			
	2014	2015	2016	2017
Total	5,604	10,309	7,476	16,741
Primary	-336	3,468	-1,401	3,874
Mining, quarrying and petroleum	-573	2,347	-1,225	3,863
Manufacturing	581	3,190	1,598	5,414
Food, beverages and tobacco	690	1,153	2	3,612
Manufacture of computer, electronic, optical products and electrical equipment	28	943	149	1,038
Tertiary	5,360	3,651	7,280	7,452
Electricity, gas, water and waste management	270	-30	2,421	1,522
Trade	314	75	-3,360	5
Accommodation and food service activities	-417	1,004	409	-272
Transportation and storage	1,592	1,709	3,199	1,445
Information and communication	304	18	1,032	823
Financial and insurance activities	2,012	630	1,597	330
Business activities	48	135	994	3,064
Real estate activities	-2,649	77	481	2,706
Professional, scientific and technical activities	610	19	373	159
Administrative and support service activities	2,088	39	140	199

Source: UNCTAD M&A database.

Annex table 2.1. Australian M&A deals in ASEAN, various years (Millions of dollars) (Selected cases)

Ultimate acquiring company	Target company	Target nation	Target industry	Value (\$ millions)	Shares acquired	Shares owned after	Year
Macquarie Group	Energy Development Corp	Philippines	Electric services	1281	32	32	2017
Investor Group (EMR Capital Group and Farallon Capital Management)	G-Resources Grp Ltd-Martabe gold mine in Indonesia	Indonesia	Gold ores	775	95	95	2016
Toll Holdings	SembCorp Logistics Ltd	Singapore	Arrangement of transportation of freight and cargo	774	93	93	2006
Seek	Jobstreet.com Pte Ltd	Singapore	Information retrieval services	599	100	100	2014
Mermaid Marine Australia	Jaya Offshore Support Services Pte Ltd, Jaya Marine Pte Ltd, Jaya Marine Lines Pte Ltd, Jaya Offshore Pte Ltd	Singapore	Shipbuilding and repairing	495	100	100	2014
Straits Resources	Separi Energi PT	Indonesia	Bituminous coal and lignite surface mining	410	100	100	2007
ANZ Banking Group	AMMB Holdings Bhd	Malaysia	Banks	357	11	25	2007
Donaco International	Star Vegas Resort & Club Co Ltd	Cambodia	Hotels and motels	302	100	100	2015
Macquarie Group	Oiltanking Odjell Terminal Singapore Pte Ltd	Singapore	Marine cargo handling	300	50	50	2017
Kangaroo Resources	Bayan Resources Tbk PT – Pakar Coal Project & Assets	Indonesia	Bituminous coal and lignite surface mining	278	100	100	2011
Champ Private Equity	Miclyn Express Offshore Ltd	Singapore	Marine cargo handling	216	33	33	2012
Santos	AVE Ltd – Ande Ande Lumut Oil Project	Indonesia	Crude petroleum and natural gas	188	50	50	2013
Macquarie Bank	City Square Centre	Malaysia	Department stores	185	100	100	2007
Macquarie Bank	Pacific Star Prime REIT Management Ltd	Singapore	Real estate agents and managers	139	25	25	2005
Toll Holdings	Sembawang Kimtrans (S) Pte Ltd	Singapore	Arrangement of transportation of freight and cargo	128	69	95	2007
Ramsay Health Care	Sime Darby Bhd – Healthcare Assets	Malaysia	General medical and surgical hospitals	126	100	100	2013
AIMS Financial Group	C&P Logistics Hub 2 – Singapore	Singapore	General warehousing and storage	119	100	100	2010
ANZ Banking Group	Bank Pan Indonesia Tbk PT	Indonesia	Banks	114	8	38	2009
Virgin Australia Holdings	Skywest Airlines Ltd	Singapore	Air transportation, scheduled	92	90	100	2013
ANZ Banking Group	Saigon Securities Inc	Viet Nam	Security brokers, dealers, and flotation companies	88	10	10	2007
Agincourt Resources	Newmont South East Asia Pte Ltd	Singapore	Gold ores	77	95	95	2006
CGA Mining	Benguet Corp – King-king Copper-Gold Project, Davao	Philippines	Gold ores	70	60	60	2010
Perpetual	Viva Industrial Trust – UBI Property	Singapore	Operators of nonresidential buildings	59	100	100	2015
Investor Group	Syn Mun Kong Insurance Co Ltd	Thailand	Insurance agents, brokers, and service	58	22	22	2014
Commonwealth Bank of Australia	Vietnam International Commercial Joint Stock Bank	Viet Nam	Banks	55	5	20	2011
Two Way	Lao Cai International Hotel	Viet Nam	Hotels and motels	54	75	75	2012
Otto Energy	Galoc Production Co WLL	Philippines	Crude petroleum and natural gas	54	69	100	2011
Insurance Australia Group	AnLife Insurance Bhd	Malaysia	Life insurance	51	30	30	2005
Coca-Cola Amatil	PT San Miguel Indonesia Food and Beverages – Bottling Assets	Indonesia	Distilled and blended liquors	47	100	100	2012
Renaissance Minerals	OZ Minerals (Cambodia) Ltd	Cambodia	Gold ores	45	100	100	2012
ANZ Banking Group	ANZ Panin Bank PT	Indonesia	Banks	44	14	99	2011
Insurance Australia Group	Safety Insurance PCL	Thailand	Life insurance	42	60	98	2006

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Annex table 2.1. Australian M&A deals in ASEAN, various years (Millions of dollars) (Selected cases)

Ultimate acquiring company	Target company	Target nation	Target industry	Value (\$ millions)	Shares acquired	Shares owned after	Year
AWE	Genting Oil Natuna Pte Ltd, Sanyen Oil & Gas Pte Ltd	Singapore	Crude petroleum and natural gas	39	100	100	2012
Salmat	MicroSourcing International Inc	Philippines	Management services	39	50	50	2014
United Group	Premas International Ltd	Singapore	Real estate agents and managers	38	100	100	2005
SKILLED Group	Ezion Investments Pte Ltd	Singapore	Investors, nec	36	100	100	2013
Anchorage Capital Partners	First Engineering Ltd	Singapore	Plastics products, nec	33	100	100	2012
OMI Holdings	iSentric Sdn Bhd	Malaysia	Computer facilities management services	33	100	100	2014
DXN Australia	Fabchem China Ltd	Singapore	Explosives	32	30	30	2007
Cabcharge Australia	CityFleet (UK) Pte Ltd	Singapore	Taxicabs	31	5	20	2006
Costarella Design	Asian Centre for Liver Diseases & Transplantation Inc	Singapore	Investors, nec	31	100	100	2009
Wotif.com Holdings	Asia Web Direct (HK) Ltd	Thailand	Travel agencies	31	100	100	2008
Adelaide Brighton	Aalborg Portland Malaysia Sdn Bhd	Malaysia	Cement, hydraulic	30	30	30	2012
Victory West Metals	South East Asia Energy Resources Pte Ltd	Indonesia	Investment offices, nec	29	100	100	2012
Harvey Norman Holdings	Pertama Holdings Ltd	Singapore	Investors, nec	28	22	100	2013
Entertainment Media & Telecoms Corporation	Nexbis Sdn Bhd	Malaysia	Security systems services	27	51	51	2008
Cape Range Wireless	Metro Consolidated (S) Pte Ltd	Singapore	Bituminous coal and lignite surface mining	26	80	100	2008
Ancor	Bella Prima Perkasa PT	Indonesia	Business services, nec	25	100	100	2014
Altura Mining	Delta Ultima Coal PT	Indonesia	Bituminous coal and lignite surface mining	25	33	33	2013
Voltage IP	KLE Products Sdn Bhd	Malaysia	Coating, engraving, and allied services, nec	24	100	100	2016
Indophil Resources	Tampakan Copper-Gold Project, South Cotabato	Philippines	Copper ores	24	5	38	2008
Pine Capital	Story-I	Indonesia	Radio, television, and consumer electronics stores	22	100	100	2014
Harvey Norman Holdings	Pertama Holdings Ltd	Singapore	Investors, nec	22	17	79	2011
Challenger Infrastructure Fund	GEP Asia Terminals Pte Ltd	Singapore	Special warehousing and storage, nec	21	..	..	2007
Dreamscape Networks	Vodien Internet Solutions Pte Ltd	Singapore	Computer facilities management services	21	100	100	2017
Insurance Australia Group	AAA Assurance Corp	Viet Nam	Accidental and health insurance	20	30	30	2012
Commonwealth Bank of Australia	Bank Arta Niaga Kencana PT	Indonesia	Banks	20	57	57	2007
Transfield Svcs Kwinana	SembCorp Energy (Kwinana) Pte Ltd	Singapore	Investors, nec	20	..	..	2005

Source: UNCTAD M&A database.

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