
ASEAN INVESTMENT REPORT 2015: INFRASTRUCTURE INVESTMENT AND CONNECTIVITY

OVERVIEW

FDI DEVELOPMENT AND CORPORATE INVESTMENT STRATEGIES

FDI flows to ASEAN rose for the third consecutive year, from \$117.7 billion in 2013 to \$136.2 billion in 2014, despite a 16% decline in global flows (figure 1). This level exceeded inflows to China for the first time since 1993, making ASEAN the largest recipient of FDI in the developing world. Most Member States witnessed an increase in FDI flows last year.

A number of key developments contributed to the further annual rise in FDI. Foreign MNEs and other ASEAN companies continued to expand their operations in the region in a range of industries for a number of various reasons. Regional expansion strategies of foreign and ASEAN companies remain a key aspect of the region's investment landscape in 2014 and 2015. FDI in services increased significantly last year. The region's investment environment also improved further as more regional and national measures favourable to FDI were introduced or announced. Behind these motives are strong regional economic fundamentals such as cost advantages and market factors, including regional integration, attracting investment and influencing corporate

Figure 1. FDI flows to ASEAN rose by 16%, to \$136 billion in 2014 overtaking China as the largest FDI recipient
(Millions of dollars)



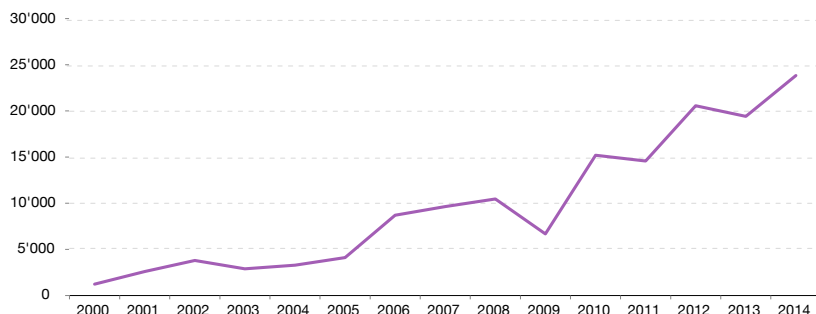
Source: ASEAN Secretariat, ASEAN FDI Database (accessed 1 July 2015).

strategy in ASEAN. The major sources of investment in 2014 remained largely the same as in 2013, with two-thirds of FDI continuing to come from the top five investment source regions and economies, namely the European Union (EU), intra-ASEAN and Japan, the United States as well as Hong Kong (China).

The rise in FDI in 2014 was also driven by an increase in intraregional investment and strong FDI flows from a majority of ASEAN's Dialogue Partners. They include Australia, China, the EU, the Republic of Korea and the United States. However, FDI flows from Japan to the region plummeted by 39%, to \$13.4 billion, reflecting the general downward global FDI trend of Japanese investment in 2014. Notwithstanding the FDI decline, Japan remained the largest investor in manufacturing activities in the region last year. The EU was the largest investor as a whole, followed by ASEAN. Increased FDI from France, Luxembourg and the United Kingdom contributed to the rise in the EU's investment.

Intra-ASEAN investment rose by 26%, from \$19.4 billion in 2013 to \$24.4 billion in 2014 – accounting for 18% of total inflows into the region (figure 2). This upward intraregional investment trend suggests a growing interest of ASEAN companies in establishing a stronger regional presence, in particular in recent years, in light of emerging opportunities and the influence of the impending ASEAN Economic Community (AEC) 2015.

Figure 2. Intra-ASEAN investment rose by 26% to \$24.4 billion in 2014
(Millions of dollars)



Source: ASEAN Secretariat, ASEAN FDI Database (accessed 1 July 2015).

Manufacturing FDI declined to \$22.2 billion from \$33.3 billion in 2013 but this was compensated for by a strong surge in FDI in finance, from \$28.3 billion in 2013 to \$43.1 billion. FDI in agriculture also rose from \$2.3 billion to \$4.5 billion, while investment in the extractive industries declined from \$8.0 billion to \$7.3 billion. FDI from the EU and the United States dominated in finance, while investments by ASEAN companies were to the fore in the primary sector (agriculture and mining activities) and real estate.

A notable aspect of the changing landscape of FDI in ASEAN is the growing frequency of transfers of labour-intensive manufacturing activities from higher-cost locations in other Asian economies and within ASEAN to the CLMV (Cambodia, Lao PDR, Myanmar and Viet Nam) countries, as well as other ASEAN Member States such as Indonesia. This development is strengthening further regional production networks and regional value chains – boosting connectivity between CLMV countries and the other ASEAN Member States as production from the former is supplied to affiliates or customers based in the latter. This industrial connectivity is contributing to the development of supporting industries and increasing the region’s manufacturing competitiveness, which draws on the complementary locational advantages increasingly being tapped by multinational enterprises (MNEs) and ASEAN companies. Furthermore, the rise in regional economic activities by MNEs and companies from the other ASEAN Member States is helping bridge the development divide in the region through investment.

In 2014–2015, ASEAN Member States continued to introduce measures favourable to investment. They included measures to make investing easier, increase transparency and improve the investment environment. Others included national investment policy reforms, industrial development policies, incentives and tax reforms, investment facilitation, streamlining of investment procedures, strengthening of institutional support for investors, establishment of more economic zones and infrastructure development. The ASEAN Member States are also involved with other investment-related agreements at the bilateral, plurilateral and regional levels, at various stages of negotiation and development. They include investment agreements for ASEAN free trade agreements with Dialogue Partners and the Regional Comprehensive Economic Partnership. Some Member States continue to negotiate and implement bilateral and plurilateral free trade agreements that include

investment agreements or chapters, and bilateral investment treaties.

Achieving a fourth consecutive year of higher FDI inflows in 2015 is likely to pose a challenge for the region. Cross-border merger and acquisition (M&A) sales and FDI flows to ASEAN in the first half of 2015 were down, against the backdrop of global economic fragilities and slower regional growth. However, the level of inflows will remain high – close to the level of 2014. The outlook for 2016 is cautiously optimistic, but much depends on the health of the global economy and corporate investment plans as well as the delivery of the AEC benefits in both depth and scope. Supporting further investment into the region in 2016 and beyond are the region’s strong macroeconomic fundamentals, economic resilience, increasingly affluent consumers and influences of regional integration, as well as the cost competitiveness of the region, the strong cash holdings of ASEAN companies and the continued regional investment expansion plans of investors. Various recent surveys of companies highlight that a growing number of MNEs have favourable perceptions of the region that have translated into investment. Many have investment plans that target the region in the next few years.

ASEAN is also a major source of FDI for other developing countries. Outward FDI flows from the region to the world rose by 19% in 2014, to \$80 billion. In perspective, this is greater than the outward flows of France and Spain combined, and more than 2.5 times those of the Republic of Korea in 2014. Companies from the region are expected to continue to internationalize in 2015 and beyond, including using more M&A strategies in accessing markets – further strengthening South–South partnerships. The increasing financial strength of ASEAN MNEs – their strong profitability and cash holdings – is encouraging them to regionalize and internationalize. Emerging investment opportunities abroad are also driving investment overseas. The top 100 ASEAN companies by market capitalization had combined cash holdings of \$228 billion and combined assets of nearly \$3 trillion in 2014. Most of them have operations in other ASEAN Member States (table 1).

Table 1.

Top 100 ASEAN companies have strong assets and significant cash holdings, 2014 (Millions of dollars)

Company	Country	Industry	2014			
			Net income	Total assets	Market capitalization	Cash or near cash holding
Singapore Telecommunications	Singapore	Telecommunication	2,901	31,249	46,219	410
DBS Group Holdings	Singapore	Banks	3,194	332,653	38,447	14,733
Overseas-Chinese Banking Corp	Singapore	Banks	3,033	302,881	31,457	19,109
United Overseas Bank	Singapore	Banks	2,565	231,551	29,678	26,484
PTT	Thailand	Oil, gas and consumable fuels	1,718	54,062	28,120	6,199
Bank Central Asia	Indonesia	Banks	1,391	44,443	26,034	4,710
Malayan Banking	Malaysia	Banks	2,053	182,864	24,405	18,858
Bank Rakyat Indonesia	Indonesia	Banks	2,045	64,518	23,121	5,935
Advanced Info Service	Thailand	Telecommunication (wireless)	1,110	3,839	22,675	434
Telekomunikasi Indonesia	Indonesia	Telecommunication	1,235	11,335	22,629	1,424
Tenaga Nasional	Malaysia	Electric utilities	2,000	34,993	22,093	2,565
Avago Technologies	Singapore	Semiconductors	263	10,491	21,936	1,604
Bank Mandiri	Indonesia	Banks	1,676	68,788	20,227	5,746
Public Bank	Malaysia	Banks	1,381	98,735	20,181	3,220
Siam Commercial Bank	Thailand	Banks	1,642	82,033	18,771	1,282
Sime Darby	Malaysia	Industrial conglomerates	1,034	15,871	18,271	..
Axiata Group	Malaysia	Telecommunication (wireless)	718	14,030	17,279	1,457
Kasikornbank	Thailand	Banks	1,421	72,596	16,653	1,764
Siam Cement	Thailand	Construction materials	1,035	14,154	16,335	579
Wilmar International	Singapore	Food products	1,156	43,558	15,642	3,127
Maxis	Malaysia	Telecommunication (wireless)	525	5,172	14,685	437
SM Investments Corp	Philippines	Industrial conglomerates	640	15,912	14,506	1,546
Philippine Long Distance Tel	Philippines	Telecommunication (wireless)	768	9,752	14,030	596
Digi.Com	Malaysia	Telecommunication (wireless)	621	1,229	13,700	150
PTT Explor & Prod Public Co	Thailand	Oil, gas and consumable fuels	662	23,328	13,511	3,947
CIMB Group Holdings Bhd	Malaysia	Banks	950	118,280	13,376	10,332
Thai Beverage	Thailand	Beverages	668	5,226	13,079	68
Petronas Gas	Malaysia	Gas utilities	563	3,787	12,523	182
Petronas Chemicals Group	Malaysia	Chemicals	754	8,129	12,452	2,584
Keppel Corp	Singapore	Industrial conglomerates	1,488	23,820	12,104	4,330
Perusahaan Gas Negara	Indonesia	Gas utilities	723	6,215	11,719	1,216
CP	Thailand	Food and staples retailing	313	9,918	11,601	980
IHH Healthcare	Malaysia	Health care	231	8,179	11,258	704
Bangkok Bank	Thailand	Banks	1,119	83,862	11,252	1,822
SM Prime Holdings	Philippines	Real estate	414	8,691	10,999	788
Ayala Land	Philippines	Real estate	333	8,693	10,689	641
Capitaland	Singapore	Real estate	916	33,301	10,641	2,043
Airports of Thailand	Thailand	Transportation infrastructure	379	4,741	10,525	216
IOI Corp	Malaysia	Food products	1,040	4,777	10,396	..
JG Summit Holdings	Philippines	Industrial conglomerates	411	12,489	10,352	838
Global Logistic Properties	Singapore	Real estate	685	13,947	10,025	1,446
Genting Singapore	Singapore	Hotels, restaurants and leisure	501	9,566	9,870	2,791
Singapore Airlines	Singapore	Airlines	286	17,995	9,786	3,826
Krung Thai Bank	Thailand	Banks	1,022	83,238	9,640	2,269
Ayala Corporation	Philippines	Diversified financial services	419	16,228	9,609	2,030
Genting	Malaysia	Hotels, restaurants and leisure	553	20,932	9,419	4,681
Gudang Garam	Indonesia	Tobacco	453	4,684	9,396	128
MISC	Malaysia	Marine	674	11,876	9,204	1,382
Bank Negara Indonesia	Indonesia	Banks	910	33,514	9,152	2,904
Universal Robina Corp	Philippines	Food products	262	1,734	9,078	224
BDO Unibank	Philippines	Banks	514	41,655	8,788	6,951
Great Eastern Holdings	Singapore	Insurance	694	49,579	8,572	2,457

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Top 100 ASEAN companies have strong assets and significant cash holdings, 2014 (Millions of dollars) (concluded)

Company	Country	Industry	2014			
			Net income	Total assets	Market capitalization	Cash or near cash holding
Bank of the Philippine Islands	Philippines	Banks	406	32,414	8,262	5,598
Bangkok Dusit Med Service	Thailand	Health care	228	2,833	8,096	109
Singapore Tech Engineering	Singapore	Aerospace and defense	420	6,280	8,003	1,104
Saparakencana Petroleum	Malaysia	Energy equipment and services	343	7,948	7,856	345
Hong Leong Bank	Malaysia	Banks	648	53,079	7,735	..
Semen Indonesia	Indonesia	Construction materials	469	2,761	7,731	397
Intouch Holdings	Thailand	Telecommunication (wireless)	455	1,662	7,672	90
Telekom Malaysia	Malaysia	Telecommunication	254	6,461	7,308	853
Aboitiz Power Corp	Philippines	Independent power producers	376	4,845	7,056	900
City Developments	Singapore	Real estate	608	14,872	7,050	2,817
PTT Global Chemical	Thailand	Chemicals	463	12,299	7,021	469
Dynasty Ceramic	Thailand	Building products	38	158	7,005	6
Total Access Communication	Thailand	Telecommunication (wireless)	330	3,234	6,943	177
Kalbe Farma	Indonesia	Pharmaceuticals	174	1,000	6,901	153
Kuala Lumpur Kepong	Malaysia	Food products	307	3,928	6,842	395
AMMB Holdings	Malaysia	Banks	557	40,643	6,646	3,771
Genting Malaysia	Malaysia	Hotels, restaurants and leisure	363	5,940	6,591	791
Aboitiz Equity Ventures	Philippines	Industrial conglomerates	414	6,281	6,524	1,129
Manila Electric Company	Philippines	Electric utilities	407	6,014	6,449	1,553
Petrovietnam Gas Joint Stock	Viet Nam	Gas utilities	667	2,516	6,249	1,126
Central Pattana	Thailand	Real estate	225	2,705	6,205	76
Sembcorp Industries	Singapore	Industrial conglomerates	632	12,966	5,994	1,254
Singapore Exchange	Singapore	Finance	254	1,316	5,963	..
Big C Supercenter	Thailand	Food and staples retailing	223	3,123	5,941	347
RHB Capital	Malaysia	Banks	623	62,646	5,598	6,185
Charoen Pokphand	Thailand	Food products	325	12,664	5,472	1,021
Starhub	Singapore	Telecommunication (wireless)	292	1,500	5,412	199
Singapore Press Holdings	Singapore	Media	322	5,326	5,371	355
Capitaland Mall Trust	Singapore	Real estate investment trusts	489	7,442	5,332	853
Siam Makro	Thailand	Food and staples retailing	150	1,327	5,287	139
Hong Leong Financial Group	Malaysia	Banks	526	59,256	5,268	..
International Container Terminal Services	Philippines	Transportation infrastructure	182	3,401	5,235	194
YTL Corp	Malaysia	Multi-utilities	479	19,020	5,231	..
Sembcorp Marine	Singapore	Machinery	442	6,219	5,143	813
Globe Telecom	Philippines	Telecommunication (wireless)	301	4,012	5,133	375
Jollibee Foods Corp	Philippines	Hotels, restaurants and leisure	121	1,210	5,127	170
Alliance Global Group	Philippines	Industrial conglomerates	298	9,156	5,114	1,835
Metropolitan Bank & Trust	Philippines	Banks	453	35,864	5,092	5,594
Charoen Pokphand Indonesia	Indonesia	Food products	147	1,678	4,987	71
Petronas Dagangan	Malaysia	Oil, gas and consumable fuels	153	2,725	4,857	525
PPB Group	Malaysia	Food products	280	5,313	4,842	194
DMCI Holdings	Philippines	Industrial conglomerates	243	3,066	4,659	341
Astro Malaysia Holdings	Malaysia	Media	141	2,121	4,564	372
Vietnam Dairy Products Jsc	Viet Nam	Food products	286	1,205	4,467	71
Golden Agri-Resources	Singapore	Food products	114	14,667	4,458	323
Ascendas Real Estate Investment Trust	Singapore	Real estate investment trusts	383	5,848	4,317	30
SIA Engineering	Singapore	Transportation infrastructure	211	1,357	4,291	44
Comfortdelgro Corp	Singapore	Road and rail	224	3,949	4,199	623
Total			70,553	2,928,468	1,131,906	228,137

Source: UNCTAD 2015b, based on Bloomberg.

INFRASTRUCTURE INVESTMENT AND PRIVATE SECTOR PLAYERS IN ASEAN

Infrastructure plays an important role in the region's economic, social and environmental development, including through boosting connectivity. As the backbone of the economy in all the ASEAN Member States, it contributes to improving the region's investment environment for attracting FDI. Greater connectivity of national transport infrastructure enhances logistical efficiency and supports the growth of investment, trade and commerce. Investment in power infrastructure increases energy security, provides electricity to industrial estates in rural areas and is essential for achieving universal access for all. As with other infrastructure sectors, the provision of information and communication technology (ICT) infrastructure supports downstream businesses such as e-commerce and connects Member States with each other, as well as with the world. Infrastructure development plays an important role in reducing the transaction costs of doing business in the region.

ASEAN Member States have invested in infrastructure to varying degrees in terms of spending and development. However, further infrastructure investment is needed across a wide range of economic, social and environmental sectors if Member States are to achieve their economic plans and other objectives, including those related to national and regional connectivity. The private sector has been a significant player in the region's infrastructure development. The roles of banks, other financial institutions and donors of official development assistance (ODA) in supporting infrastructure development have also been important.

The infrastructure investment needs for the region through 2025 – covering power, transport, ICT, and water and sanitation – are huge. Some \$110 billion a year will be needed for infrastructure investment in these sectors. Given the current spending by Member States, the infrastructure investment gap will be equally huge but resources need to be found if the gap is to be filled and future demand is to be met. The private sector can play a greater role to help bridge the gap. There is a need for a more concerted effort by all stakeholders to mobilize and channel investment from additional potential resources to

infrastructure in the region. Filling the gap is possible. For instance, in addition to resources outside the region that can also be tapped, there is at least \$10 trillion worth of assets in ASEAN Member States – mostly with the private sector – that can be potential sources of funding.

The private sector participates in the region's infrastructure development through a number of modalities. They include FDI, M&As, privatization, non-equity modalities (concessions and contracts), and partnership or consortium arrangements. Some modalities are more significant than others for private sector participation. The privatization of public infrastructure and the maturity of the M&A environment, including opportunities to acquire assets in a host country, can influence private sector participation. Firms' experience, skill sets and ability to win contracts are additional influences. MNEs from developed and developing economies, including from ASEAN, are participating in infrastructure development in the region through contractual arrangements, whether as engineering, procurement and construction (EPC) contractors or subcontractors (table 2). They also invest, build, operate and manage infrastructure assets. Concessionary arrangements and contracts, a form of NEM, continue to be key features of MNEs' participation in infrastructure development in ASEAN.

MNEs from developed countries have been involved in infrastructure development in ASEAN for a long time. More recently, Chinese infrastructure-related companies have become notable players in building infrastructure in ASEAN in a very short period of time. These Chinese players not only operate as contractors, but also invest in, own and operate infrastructure. Some have an extensive regional presence through contracts and subsidiaries. In 2014, 62 Chinese companies were among the top 250 international contractors in terms of revenues, and a majority of these companies are in or are expanding their operations in ASEAN.

The number of ASEAN companies involved in infrastructure development is increasing; such companies are also investing outside the region and building infrastructure in other developing countries. In addition to winning contracts, infrastructure-related companies from Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam have established subsidiaries in other ASEAN Member States (table 3).

Table 2.

MNEs from both developed and developing economies participate in ASEAN infrastructure development (Selected cases)

MNEs	Home country	Industry
Sumitomo Corporation	Japan	Power and electricity
Mitsubishi Corporation	Japan	Power and electricity
Itochu Corporation	Japan	Power and electricity
Kyushu Electric Power	Japan	Power and electricity
Toshiba	Japan	Power and electricity
Electric Power Development Company	Japan	Power and electricity
Marubeni	Japan	Power and electricity
Ormat International	United States	Power and electricity
APR Energy	United States	Power and electricity
AES Corporation	United States	Power and electricity
GE	United States	Power and electricity
Xylem	United States	Power and electricity
ACO Investment Group	United States	Power and electricity
SunEdison	United States	Power and electricity
Open Systems International	United States	Power and electricity
Alstom	France	Power and electricity
Prismian Power Link SRL	Italy	Power and electricity
Conergy AG	Germany	Power and electricity
Statkraft Norfund Power Invest AS	Norway	Power and electricity
China Southern Grid International	China	Power and electricity
China Huadian Corporation	China	Power and electricity
China National Heavy Machinery Corporation	China	Power and electricity
China Datang Corporation	China	Power and electricity
Hydrolancang International Company	China	Power and electricity
Southern Power Grid Company Limited	China	Power and electricity
China Power International Holdings Limited	China	Power and electricity
Korean Electric Power Corporation	Republic of Korea	Power and electricity
Hyundai Engineering Company	Republic of Korea	Power and electricity
Daelim Industrial Company	Republic of Korea	Power and electricity
Doosan Heavy Industries and Construction	Republic of Korea	Power and electricity
SK Engineering and Construction	Republic of Korea	Power and electricity
South Korea Electric Power Corporation	Republic of Korea	Power and electricity
Korea Western Power	Republic of Korea	Power and electricity

Table 2.

MNEs from both developed and developing economies participate in ASEAN infrastructure development (Selected cases) (concluded)

MNEs	Home country	Industry
Sumitomo Mitsui Construction	Japan	Transport
Mitsui Company Limited	Japan	Transport
Tokyu Corporation	Japan	Transport
Obayashi Corporation	Japan	Transport
Shimizu Corporation	Japan	Transport
Takenaka Corporation	Japan	Transport
GE	United States	Transport
Alstom Transport	France	Transport
Invensys Rail	United Kingdom	Transport
Damen	Netherlands	Transport
A.P. Moeller-Maersk	Denmark	Transport
Fraport AG	Germany	Transport
Vinci Group	France	Transport
TUV Rheinland Group	Germany	Transport
China Railway Group	China	Transport
Guangxi Beibu International Port Group	China	Transport
China Merchants Group	China	Transport
China CAMC Engineering Company	China	Transport
China Harbour Engineering Company	China	Transport
Shanghai Tunnel Engineering Company	China	Transport
China Railway No. 5 Engineering Group Company	China	Transport
Yunnan Sunny Road and Bridge Company	China	Transport
Lotte Engineering and Construction	Republic of Korea	Transport
Samsung C&T Corporation	Republic of Korea	Transport
Daelim Industrial Company	Republic of Korea	Transport
Daewoo Engineering and Construction Company	Republic of Korea	Transport
NTT Docomo	Japan	Telecommunication
KDDI	Japan	Telecommunication
Huawei	China	Telecommunication
ZTE	China	Telecommunication
China Telecom Global Limited	China	Telecommunication
China Telecommunications Corporation	China	Telecommunication

Source: UNCTAD, based on Table 2.9.

Various types of infrastructure financiers have been playing an important role in providing or arranging finance for infrastructure development in ASEAN. They include ODA donors, MDBs, specialized infrastructure funds, private equity investors, commercial banks and sovereign wealth funds. A significant part of financing for infrastructure projects in the region comes from these sources.

Table 3. Increasing regional presence from some infrastructure-related companies from ASEAN, 2014

Name of company	Home country	Industry	Market capitalization (\$ million)	Total revenues (\$ million)	ASEAN locations of selected subsidiaries or contract operations
Adhi Karya	Indonesia	Construction, engineering	249	698	Singapore
Axiata Group	Malaysia	Telecommunication	12,583	5,398	Cambodia, Singapore
Ayala Land	Philippines	Real estate	10,898	2,011	Malaysia
Bangkok Dusit Medical Services	Thailand	Hospitals	8,347	1,720	Cambodia, Singapore
Barpu	Thailand	Mining, electricity	1,607	3,098	Indonesia, Singapore, Thailand
Bukit Asam	Indonesia	Mining, electricity	948	1,053	Other ASEAN Member States
CapitaLand	Singapore	Real estate	8,438	3,376	Malaysia, Viet Nam
City Developments	Singapore	Real estate	5,275	3,118	Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam
EGAT	Thailand	Electricity	..	16,508	Lao PDR, Myanmar
EGCO	Thailand	Electricity	..	78	Indonesia, Lao PDR, Philippines and Thailand
Enco Holdings	Malaysia	Engineering	Indonesia and Thailand
First Philippine Holdings Corporation	Philippines	Conglomerate	2,260	874	Indonesia, Singapore, Thailand
Gamuda	Malaysia	Infrastructure	2,675	775	Viet Nam
Geniting Berhad	Malaysia	Conglomerate (Electricity)	6,912	5,486	Indonesia
Gunkul	Thailand	Electricity	660	91	Singapore
IHH Healthcare	Malaysia	Hospitals	11,457	2,175	Indonesia, Singapore
International Container Terminal	Philippines	Harbour facilities	3,945	1,119	Indonesia
Intouch Holdings	Thailand	Telecommunication	6,893	315	Cambodia, Singapore
Italian-Thai Development	Thailand	Infrastructure	1,231	1,477	Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Viet Nam
Keppel Corporation	Singapore	Conglomerate*	9,190	10,086	Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam
KPJ Healthcare	Malaysia	Hospitals	1,056	766	Indonesia, Singapore, Thailand

Table 3. Increasing regional presence from some infrastructure-related companies from ASEAN, 2014 (concluded)

Name of company	Home country	Industry	Market capitalization (\$ million)	Total revenues (\$ million)	ASEAN locations of selected subsidiaries or contract operations
Malaysia Airports	Malaysia	Airports	2,252	991	Manages airports in Cambodia and outside ASEAN
Manila Water	Philippines	Water	918	367	Singapore, Viet Nam
Maxis	Malaysia	Telecommunication	11,985	2,429	Indonesia, Singapore
Metro Pacific Investments Corp.	Philippines	Road construction	2,997	932	Indonesia, Thailand, Viet Nam
Muhibbha	Malaysia	Infrastructure, engineering	Cambodia, Philippines, Singapore
Nusa Konstruksi Enjiniring Tbk	Indonesia	Construction, engineering	27	165	Malaysia
Philippine Long Distance Telephone	Philippines	Telecommunication	12,006	3,832	Malaysia
Port of Singapore Authority	Singapore	Ports	..	2,877	Indonesia, Thailand, Viet Nam
PTT	Thailand	Oil and gas	20,174	86,545	Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam
Ratchaburi Electricity Generating Holding	Thailand	Electricity	2,135	1,702	Cambodia, Lao PDR, Singapore
Salcom	Singapore	Engineering	106	77	Singapore, Viet Nam
San Miguel	Philippines	Conglomerate ^a	2,328	17,569	Malaysia, Singapore, Thailand, Viet Nam
Sembcorp Industries	Singapore	Conglomerate ^a	4,432	8,317	Indonesia, Malaysia, Philippines, Viet Nam
Semen Indonesia	Indonesia	Building materials	4,243	2,182	Viet Nam
Sam Cement	Thailand	Building materials	1,384	14,945	Cambodia, Indonesia, Malaysia, Philippines, Lao PDR, Singapore, Viet Nam
Singapore Telecommunication	Singapore	Telecommunication	42,060	12,618	Indonesia, Philippines, Malaysia, Philippines, Thailand
Supalai PCL	Thailand	Real estate	882	566	Philippines, Singapore
Telekom Malaysia	Malaysia	Telecommunication	6,097	3,256	Indonesia, Singapore
Telekomunikasi Indonesia	Indonesia	Telecommunication	20,081	7,307	Singapore
Tenaga Nasional	Malaysia	Electricity	16,103	13,760	Cambodia, Indonesia, Lao PDR, Thailand, Viet Nam
TotalAccess Communication	Thailand	Telecommunication	4,445	2,752	Malaysia, Singapore
Truba Alam Manunggal Engineering	Indonesia	Construction, engineering	57	105	Singapore
United Envirotech	Singapore	Engineering	1,224	267	Malaysia
UPP Holdings	Singapore	Electricity	89	88	Malaysia
Viettel	Viet Nam	Telecommunication	Cambodia, Lao PDR
YTL	Malaysia	Utilities	4,043	6,245	Cambodia, Indonesia, Singapore, Thailand

Source: UNCTAD 2015b, based on companies' information and Orbis.

Note: real estate includes commercial and industrial estates.

^a Includes various infrastructure.

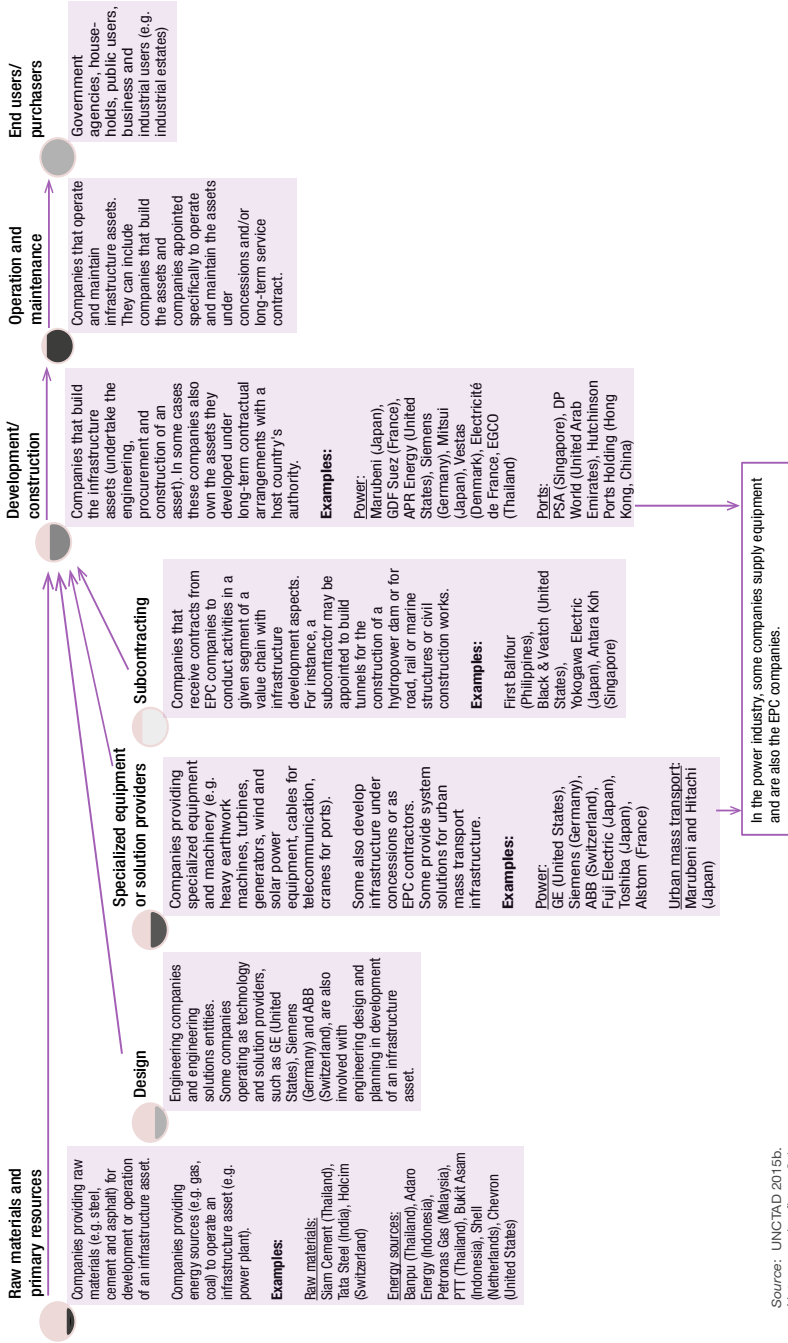
INFRASTRUCTURE VALUE CHAINS AND MOTIVATIONS OF MNEs IN ASEAN

Infrastructure value chains in ASEAN are complex and involve networks of players. In segments of these chains, MNEs contribute specific technology and skill sets that support the delivery of infrastructure. Among other roles, MNEs participate as equipment and material suppliers; solution providers; engineering, procurement and construction (EPC) companies; subcontractors; owners or sponsors; and project financiers (figure 3).

MNEs' motives for investing in infrastructure in ASEAN vary. Winning an infrastructure contract is an important consideration that can influence the establishment of a subsidiary or representative office in a host country or in a region. Most motives are related to market and strategic considerations. Some MNEs invest in infrastructure to support their core business; for instance, shipping companies develop port terminals or telecommunication service providers establish ICT infrastructure in order to achieve overall operational efficiency. Some upstream MNEs invest in downstream infrastructure to establish an integrated business – for example, from mining to power generation. Others invest to diversify into or across infrastructure chains or segments to generate revenues, reduce risk or increase corporate valuation. Yet others pursue a horizontal expansion strategy, investing overseas in order to maximize returns from exploiting their proprietary advantage, knowledge or skill sets (e.g. airport companies invest in or build airport infrastructure abroad).

In general, the value chain of infrastructure industries ranges from design, construction and development to operation and management (O&M). Different companies may be involved at each stage. In some cases, the same company may be involved across a number of segments from development to O&M, which reflects such companies' integrated business strategy, diversified skills and ability to win multiple contracts. Other companies might be involved at the construction or development stages; and, in a similar vein, companies may also provide only equipment or solutions to EPC contractors in the value chain. Each infrastructure sector has its own specific features and interconnections of different players, involving both local and foreign-owned entities. In

Figure 3. Players in different segments of an infrastructure value chain are interconnected (a simplified illustration)



Source: UNCTAD 2015b.
Note: see also figure 3.1.

some countries and sectors, key value chain segments are dominated by MNEs (e.g. EPC contractors, equipment suppliers, solution providers).

In electricity infrastructure across ASEAN, MNEs frequently operate as EPC contractors of power plants, transmission lines and power stations. Some also invest in and own power plants. These MNEs come from both developed and developing economies.

The telecommunication value chain can be broadly segmented into the provision and construction of infrastructure, the operation of telecommunication services and the provision of value added services. Of particular importance are the inputs used for investment in telecommunication infrastructure. Operators are at the centre of the telecommunication sector value chain. They make the decisions regarding infrastructure investment, users subscribe to their services, and third parties use their networks to provide add-on applications. The starting point for an analysis of ASEAN's telecommunication segmentation is the operators themselves, particularly retail operators that have facility-based licenses. The ASEAN telecommunication service market has two salient features. One is a relatively high level of privatization. Almost 60% of telecommunication operators are private or partly private entities. The second is foreign involvement with major telecommunication MNEs investing in the region, including supplying ICT equipment and system solutions.

The transport infrastructure value chain is also complex. In ports, for instance, it involves engineering design, construction, development, equipment and material supply, and road and rail construction both in and linking to the port. In road infrastructure, a similar sequence of value chain segments exists. Aside from investors in ports, other players also contribute to ports development by designing or building them. Foreign and local companies in ASEAN also play an important role in airports development in the region. For urban mass rapid transportation systems in the region, a portfolio of local and foreign companies with different skill sets work together to deliver the infrastructure. They include companies contracted for engineering design, rail network construction, station development, civil construction works, tunneling and production of equipment and system solutions, including train sets. A combination of players is also involved at different stages of the road and bridge development process. They include companies providing

services for technical design, materials, construction, subcontracting, tunneling, equipment manufacturing and supply, and technology or solution systems.

The strong interconnection of ICT and other downstream businesses has been well documented. The value chain of ICT, in particular telecommunication infrastructure, extends to downstream business operations such as e-commerce. Without ICT infrastructure, e-commerce would not exist in its present form. E-commerce is increasingly an important platform for trade, commerce and business development in the region, which is an important channel for promoting entrepreneurship and small and medium-size enterprises. More and more goods and services are delivered over ICT networks in ASEAN.

Understanding the value chain of infrastructure, the interconnection of different players and their motives for participation is essential. Understanding who plays what roles in which segments of the chains can help governments design or package infrastructure projects for fund raising or skill-acquiring purposes.

INFRASTRUCTURE AND ECONOMIC CONNECTIVITY IN ASEAN

Infrastructure is an important driver of regional connectivity in ASEAN. But connectivity is not confined to just physical aspects or through infrastructure. Regional economic connectivity through production, investment and trade carried out by MNEs and ASEAN companies operating in the region is just as important.

Regional physical connectivity in the region is shaped by development taking place at three levels: nationally, subregionally and regionally. It is also taking shape in three interrelated sectors or clusters of industries: infrastructure, infrastructure-enabled industry and infrastructure services, which have implications for attracting investment. These three levels are not just closely related but also mutually connected. In each of these infrastructure-related areas, foreign and local companies are involved. They help build, own, invest, manage and finance projects. Other sources of regional connectivity are also important: they include institutional and people-to-people connections, which are not covered in this report.

Aside from contributions from national and subregional infrastructure development, ASEAN is also increasingly connected through various regional projects and infrastructure cooperation arrangements among Member States. They include the ASEAN Power Grid, the Trans-ASEAN Gas Pipeline, the ASEAN Highway Network, the ASEAN Single Aviation Market, and the many intra-country bridge and road links. Other developments – such as the growing number of power purchase agreements, the Singapore–Kunming Rail Link (SKRL) network and the ICT cable links, including undersea cable connection projects that involve various ASEAN Member States – are providing further impetus for regional physical connectivity.

ASEAN is also increasingly connected through economic development, in particular through regional value chains and regional production networks of MNEs and ASEAN companies operating in the region. These companies are tapping the complementary locational advantages offered by the region, which are also made possible by strong institutional development that has helped lower transaction costs (e.g. zero tariffs for intra-ASEAN imports). In achieving production efficiency,

MNEs and ASEAN companies operating through a web of producers, contract manufacturers, suppliers and through intra- and inter-firm linkages – where many of these players operate in different ASEAN Member States or also have multiple operations across the region – are contributing to regional connectivity.

A ‘connected ASEAN’ has important implications. It will increase further the competitiveness of the region, enhance production efficiency, reduce transaction costs and attract FDI. Infrastructure connectivity facilitates easier movement of people and goods, reduces travel time, enables access to interconnected grid-based electricity, ensures energy security and provides cost-saving solutions to meeting the region’s growing energy needs. Infrastructure connectivity also generates spillover impacts on the development of downstream businesses and other economic activities that are dependent on the provision of quality infrastructure. They contribute to downstream infrastructure-enabled business development such as in logistics, business process outsourcing, tourism and e-commerce, all of which have implications for business-to-business and regional connectivity.

With completed projects, significant plans and ongoing infrastructure development across the region, the landscape of ASEAN physical connectivity is expected to be considerably more densely drawn by 2030 than it is today. For example, the electrification rate is expected to reach nearly 100%, providing universal access to all in the region by 2030. More grid interconnections have been agreed and most are to be completed by 2026, which involves various ASEAN Member States. The ICT penetration rate is expected to rise significantly, providing modern connections to more homes and industries, and thus supporting development of more competitive downstream infrastructure-led businesses. In transport, the SKRL – which involves several ASEAN Member States – is expected to significantly reduce travel time and generate benefits along the route. With the completion of the last missing national roads in the AHN in 2015, ASEAN Member States are now physically interconnected by 38,400 km of road routes. Air transportation is expected to grow rapidly as a consequence of the increasingly affluent society, greater ASEAN connectivity and growing regional cooperation to realize a single ASEAN aviation market. ASEAN Member States are upgrading and expanding their major airports to cope with rising demand. The numbers of ASEAN based carriers

including budget airlines have grown and the numbers of planes operated by them increased rapidly in recent years – supporting greater movement of people across the region.

On regional economic connectivity, local firms and foreign MNEs have been key actors – contributing through their activities in regional production networks and regional value chains involving different ASEAN Member States. The interrelationship of MNEs, suppliers, contract manufacturers, and inter- and intra-firm linkages will further strengthen regional connectivity. With a connected ASEAN, the environment for regional value chain and production network operations will become even more conducive, which in turn will encourage more such activities, strengthening further ASEAN's integration.

In summary, ASEAN Member States are increasingly interconnected, both physically and economically. This growing regional connectivity has important implications for building competitiveness, for achieving regional integration and for realizing the goals of the AEC. The private sector – MNEs and ASEAN companies – has been and will remain a central contributor to a progressively connected ASEAN in the future.