

2017 Outward Foreign Direct Investment of Thai Listed Firms

Research Department

The Stock Exchange of Thailand

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Executive Summary

At the end of 2017, the number of Thai listed firms in both SET301⁺ group in The Stock Exchange of Thailand (SET) and Market for Alternative Investment (mai) undertaking outward foreign direct investment (OFDI) increased. For SET, there were 226 firms investing abroad; up from 214 firms at end-2016, reflecting the significant increase of SET301⁺ investment. For mai, there were 41 firms investing abroad; up from 35 firms at the end of 2016.

For SET, the net OFDI flow of Thai listed firms in 2017 was THB 127 billion, down from the previous year. This was due to the decrease of the OFDI flow of SET50 while the OFDI flow of SET301⁺ and mai increased.

The increases in OFDI, both in number of firms and value, raised a question whether it has reduced domestic investment. On the contrary, from the information of SET50 who have foreign direct investments, **domestic investment has increased similarly to foreign direct investment during the past 3 consecutive years.** Furthermore, the value of domestic investment is 2.5 - 3.7 times of the foreign direct investment. Hence, the outward foreign direct investment has not crowded out domestic investment.

In 2017, revenue from abroad of Thai listed firms, derived from operation overseas and exports revenue, **grew on average by 8% YoY for both SET and mai.** In addition, the ratios of foreign revenue to total revenue of listed companies in SET and mai were 46% and 33% respectively, similar to the previous year.

To assess the internationalization effects of these firms, the “Economic Exposure Universe” has been created to compile the Thai listed firms undertaking OFDI and/or receiving revenue from abroad. In 2017, Global Economic Universe consists of 322 firms in SET and 73 firms in mai.

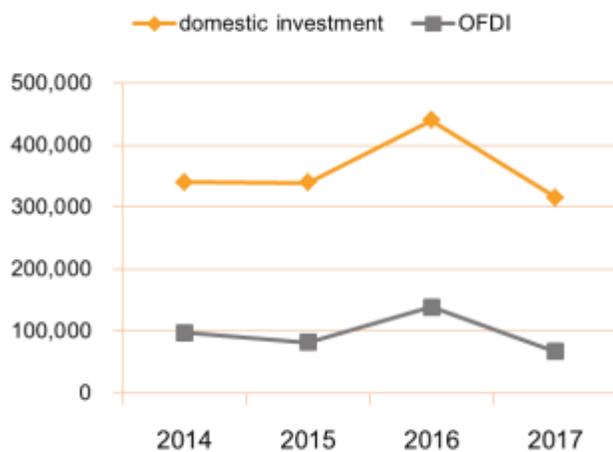
Section 1

Outward Foreign Direct Investment and Revenue from Abroad of Listed Companies in the Stock Exchange of Thailand (SET)

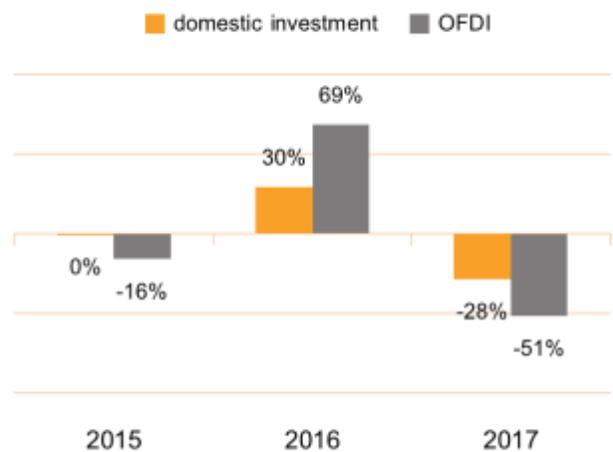
Introduction: Outward foreign direct investment does not crowd out domestic investment

From the information of the firms in SET50 under taking foreign direct investments, domestic investment has changed in the same direction as foreign direct investment during the past 3 consecutive years, This means that when foreign direct investment increases, domestic investment also increases. Furthermore, the value of domestic investment is 2.5 - 3.7 times of the foreign direct investment. Hence, it can not be concluded that foreign direct investment has crowded out the domestic investment.

Value of investment (THB million)



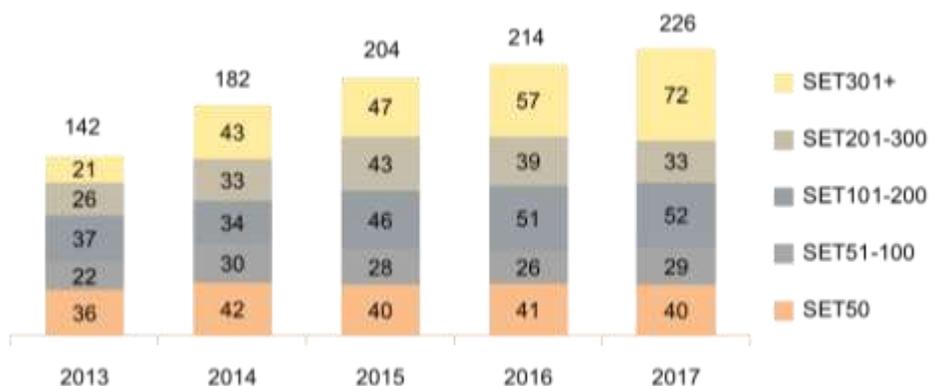
Changes of investment (%YOY)



Status of Listed Firms' Outward Foreign Direct Investment

The number of Thai listed firms undertaking outward foreign direct investment¹ (OFDI) has increased steadily. By the end of 2017, 226 firms were undertaking OFDI, increased from 214 firms in 2016. There were 72 small firms in SET301⁺ undertaking OFDI; up from 57 firms in the previous year, which were more than Non-SET301+. (SET50, SET51-100, SET101-200, SET201-300)

Number of Thai listed firms undertaking OFDI classified by firm size

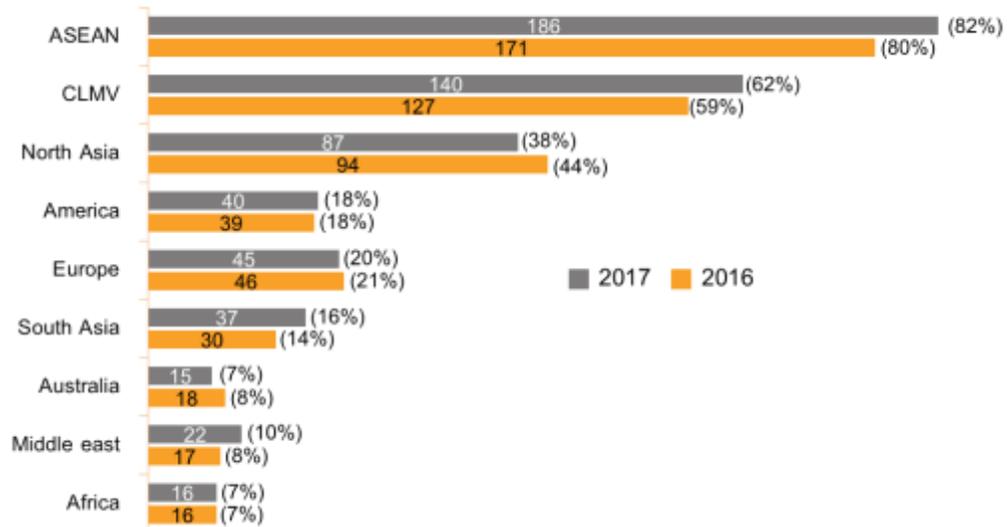


At the end of 2017, ASEAN is the major investment destination with 186 firms investing in this region or equivalent to 82% of the total 226 firms undertaking OFDI, up from the previous year. Breaking into sub-regions, CLMV, a high growth sub-region, attracted 140 firms or equivalent to 62% of all firms, which also increased from the previous year. However, the number of firms investing in North Asia and Australia fell this year.

¹ Firms undertaking OFDI at the end of year, no matter how long firms have been investing.

Number of Thai listed firms undertaking OFDI classified by regions

(The proportion of listed firms in each region to the total 214 firms with overseas investment in 2016 and 226 firms in 2017 in which the calculation contains repetitive counts of the firms if it invests in more than one country)



In each ASEAN country, at the end of 2017, there were 64 Thai listed firms with investment in Myanmar; the highest number comparing to other ASEAN countries, followed by 62 firms investing in Laos.

Number of Thai listed firms undertaking OFDI classified by ASEAN countries

	2016		2017	
	Rank	No.	Rank	No.
Myanmar	1	60	1	64
Laos	2	54	2	62
Vietnam	2	54	3	58
Singapore	2	54	3	58
Cambodia	4	45	4	55
Indonesia	3	47	4	55
Malaysia	5	38	5	41
Philippines	6	26	6	30
Brunei	7	1	7	0

Firms in all industries have undertaken OFDI. In 2017, industries that recorded higher numbers of firms undertaking OFDI compared to the previous year included Financials, Services and Technology industries.

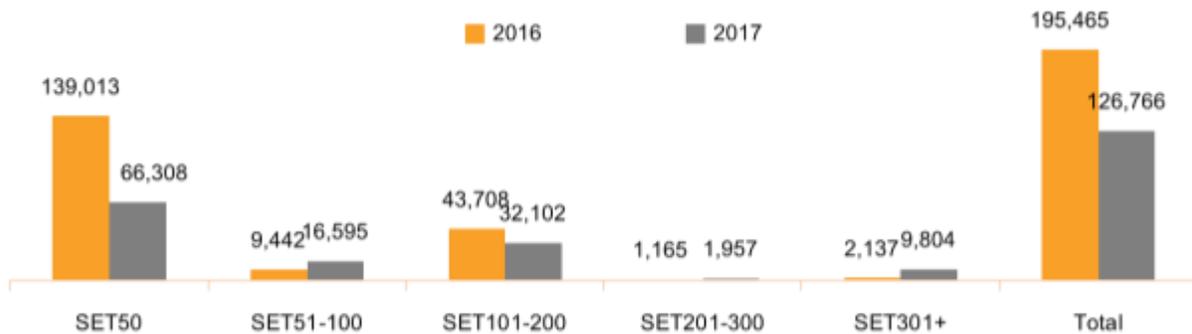
Number of Thai listed firms undertaking OFDI classified by industry



Value of Outward Foreign Direct Investment

The value of outward foreign direct investment (OFDI) refers to the amount of capital flow to invest abroad. In 2017, Thai listed firms had the OFDI net value of THB 127 billion, a decrease from THB 195 billion in 2016. Despite the decrease in investment value, the OFDI net value of SET301⁺ of THB 9.8 billion in 2017 increased from the previous year and increased by more than other larger firms.

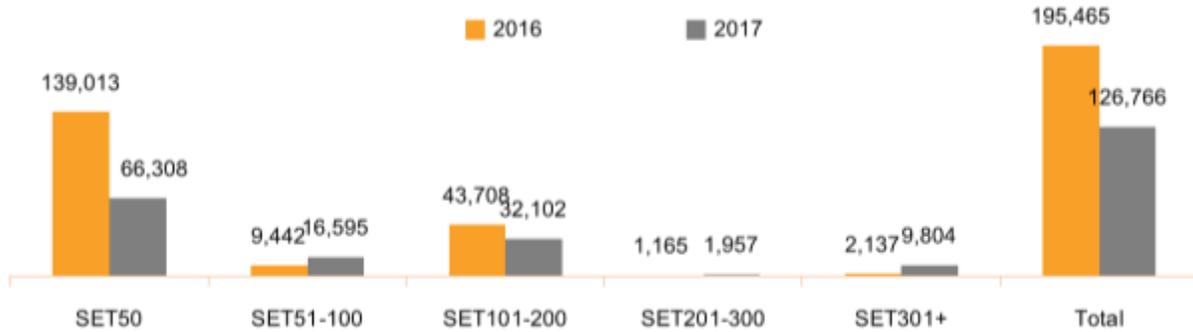
Net value of OFDI classified by firm size (million THB)



In 2017, ASEAN and North Asia were the two main target regions in terms of the amount of capital flow.

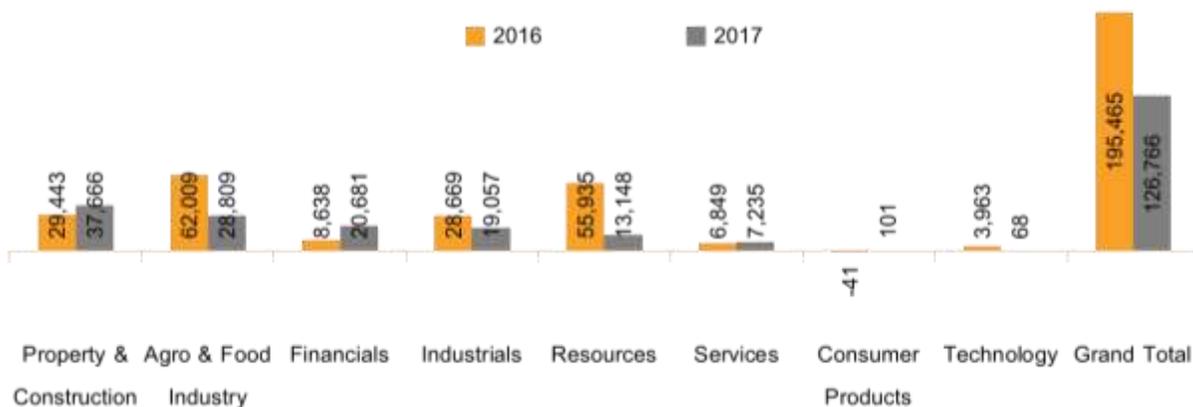
Net value of OFDI classified by region (million THB)

(Including only the firms that clearly stated the investment country)



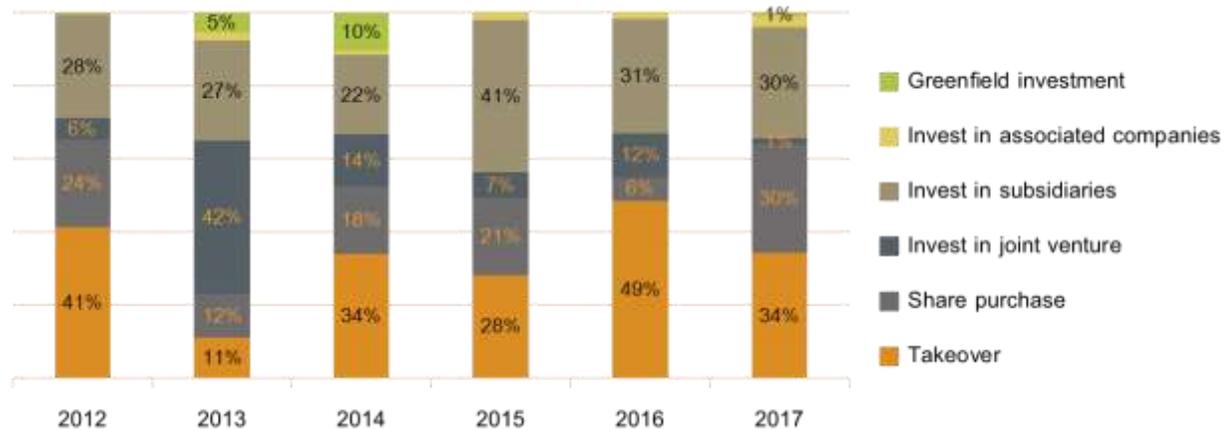
Considering the net value of OFDI in each industry, the industries which had higher net value of OFDI than the previous year were Property & Construction, Financial and Services industries.

Net value of OFDI classified by industry (million THB)



In 2017, the most preferred investment method among listed firms; instead of investing on their own, were taking over, purchasing portion of shares from foreign firms and jointly investing, accounting for a combined 65% of the total investment flow.

The proportion of OFDI value classified by investment method

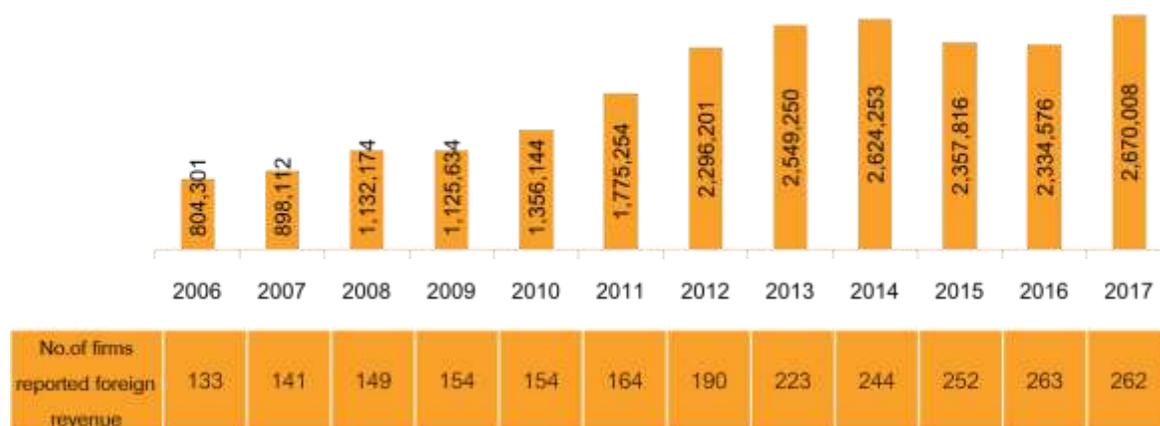


Revenue from Abroad

“Revenue from abroad” refers to both the revenue derived from businesses operating overseas and the revenue derived from exports. Unfortunately, there are firms that group only revenue from overseas based on the geographical location of customers without classification whether the derived amount is from overseas operations or exports. Therefore, foreign revenue of these firms will be grouped together and referred as ‘revenue from abroad’.

In 2017, 262 listed firms² disclosed a total of THB 2.67 trillion foreign revenue which increased by 14.3% from the previous year.

Revenue from Abroad (THB million)



² Market capitalization of these 262 firms is accounted for 62% of SET market capitalization at the end of 2017.

In order to look into 'real' foreign revenue growth, excluding the effects of shifts in number of firms, the firms taken into account would be only those who had continuously reported foreign revenue from 2006 to 2017. As such, the total of 112 listed firms had an average long term growth of 8% per annum in foreign revenue; compared with 3% average growth per annum of domestic revenue.

Average growth of revenue from abroad and domestic revenue (same firms comparison)

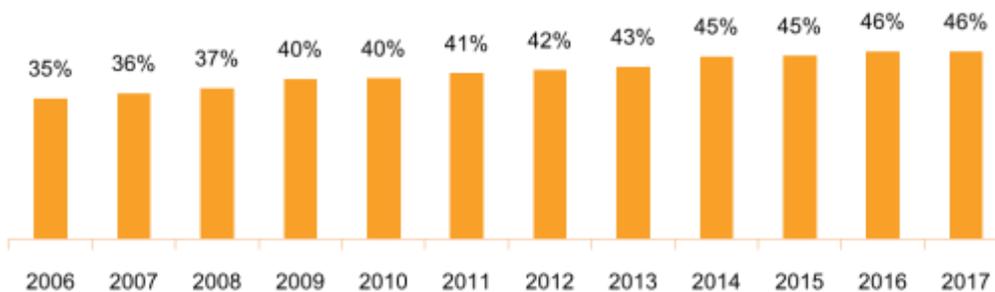
(Revenue of 112 firms continuously reporting from 2006-2017)



Looking at the long term growth from 2006 to 2017, foreign revenue has continuously played a more significant role towards the total revenue of Thai listed firms. During these years, foreign revenue of 112 firms; who had continuously reported foreign revenue, accounted for 46% of total revenue, which increased from 35% in 2006.

The proportion of revenue from abroad to total revenue (same firms comparison)

(Revenue of 112 firms continuously reporting from 2006-2017)



Economic Exposure Universe

To better represent the potential of Thai listed firms to grow even further due to the linkage of Thai firms to foreign economies, the compilation of Thai listed firms undertaking OFDI and/or generating revenue from abroad (Economic Exposure Universe) was created. 'Global Economic Exposure Universe' includes firms undertaking OFDI and/or having revenue from abroad.

In 2017, Global Economic Universe consists of 322 firms in SET in which the list is shown in Appendix 4. The ASEAN Economic Exposure Universe consisted of 203 firms and CLMV Economic Exposure Universe consisted of 152 firms.

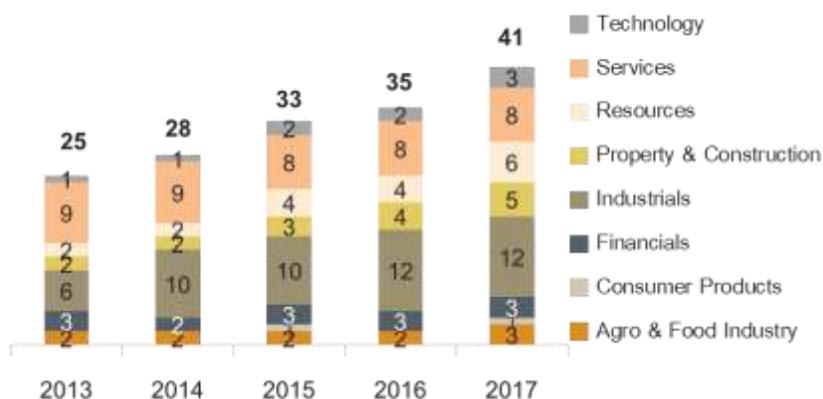
Section 2

Outward Foreign Direct Investment and Revenue from Abroad of Listed Companies in the Market for Alternative Investment (mai)

Status of Listed Firms' Outward Foreign Direct Investment

The number of Thai listed firms undertaking outward foreign direct investment³ (OFDI) has increased steadily. By the end of 2017, there were 41 firms undertaking outward foreign direct investment, increased from 35 firms in 2016. Furthermore, every industry in mai is undertaking OFDI.

Number of Thai listed firms undertaking OFDI classified by industry (data end of year)



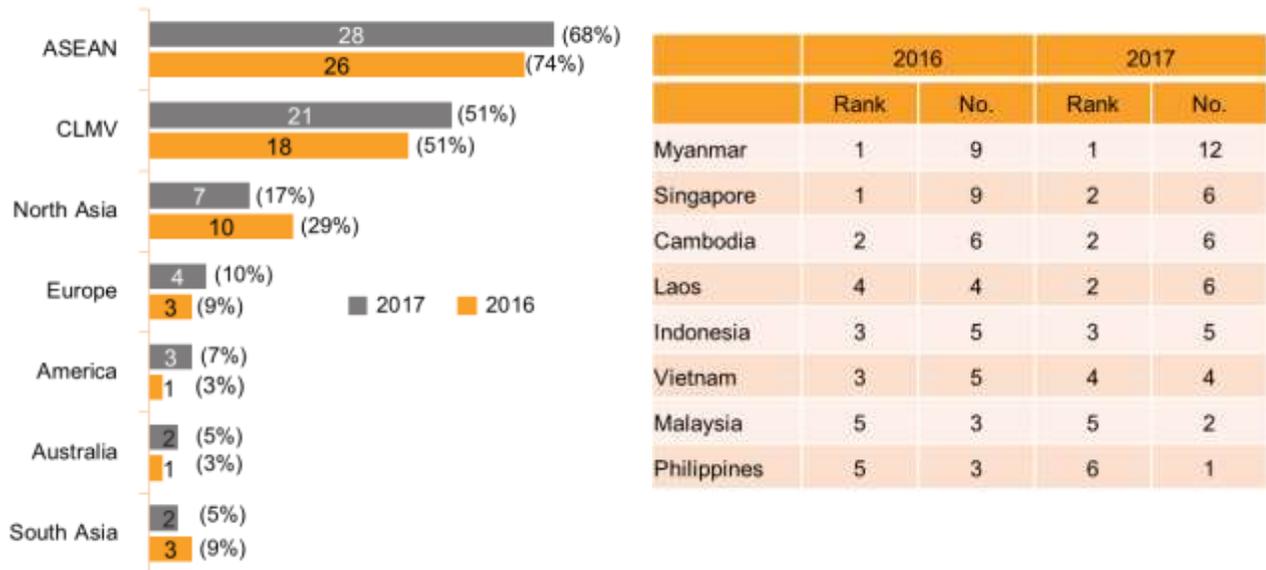
For mai, ASEAN is also the major investment destination. At the end of 2017, out of 41 firms, there were 28 firms investing in ASEAN, which increased from the previous year. Breaking into sub-regions, CLMV, a high growth sub-region, attracted 21 firms which also increased.

Looking into each country in ASEAN, at the end of 2017, there were 12 firms with investment in Myanmar; the highest number comparing to other ASEAN countries in 2017, followed by 6 firms investing in Singapore, Cambodia, and Laos.

³ Firms undertaking OFDI at the end of year, no matter how long firms have been investing.

Number of Thai listed firms undertaking OFDI classified by regions and ASEAN countries

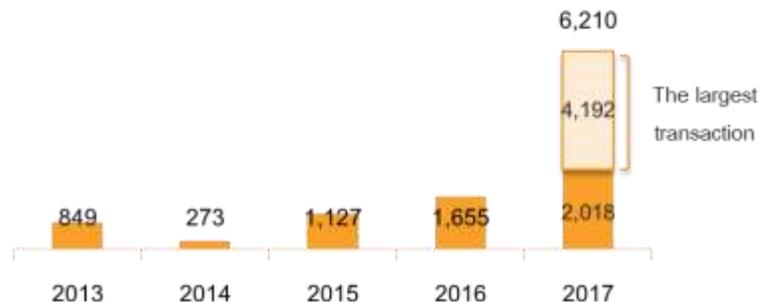
(The proportion of listed firms in each region to the total 35 firms with overseas investment in 2016 and 41 firms in 2017 in which the calculation contains repetitive counts of the firms if it invests in more than one country)



Value of Outward Foreign Direct Investment

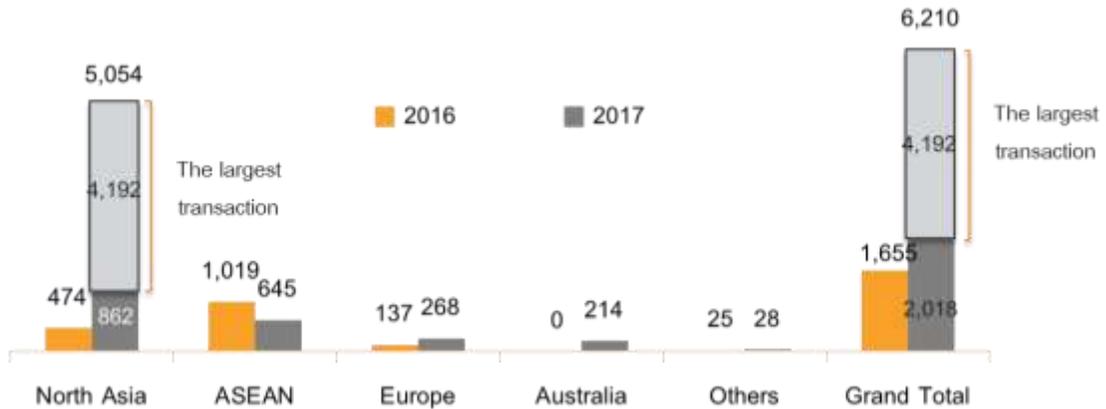
Value of outward foreign direct investment (OFDI) refers to the amount of capital flow to invest abroad. In 2017, Thai listed firms had the OFDI net value of THB 6,210 million, an increase from THB 1,655 million in 2016. This significant increase was due to a major investment with THB 4,192 million in North Asia by one company. If this transaction is not taken into the consideration, the OFDI net value will be THB 2,018 million in 2017 which also increases from the previous year.

Net value of OFDI classified by years (million THB)



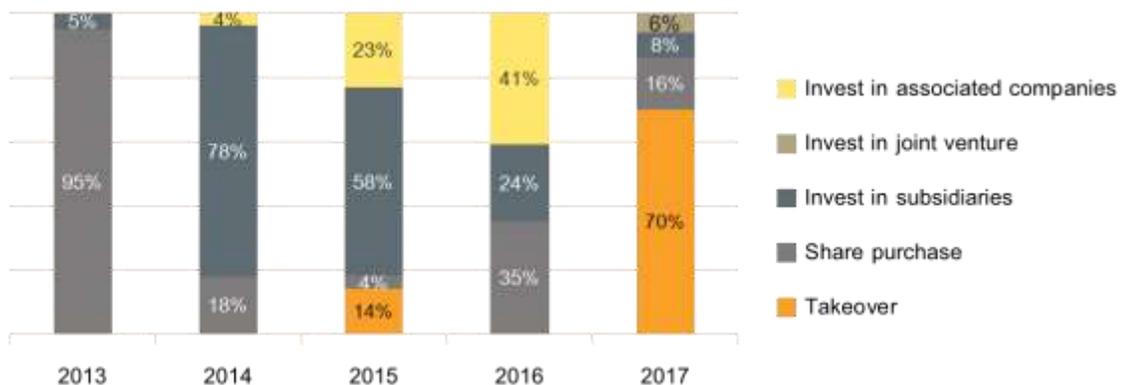
In 2017, North Asia and ASEAN were the two main target regions in terms of the amount of capital flow respectively. For the net value of OFDI of North Asia, the significant increase was due to a major investment with THB 4,192 million by one firm. If this transaction is excluded, the OFDI net value of North Asia will be THB 862 million in 2017 which also increases from the previous year.

Net value of OFDI classified by region (million THB)



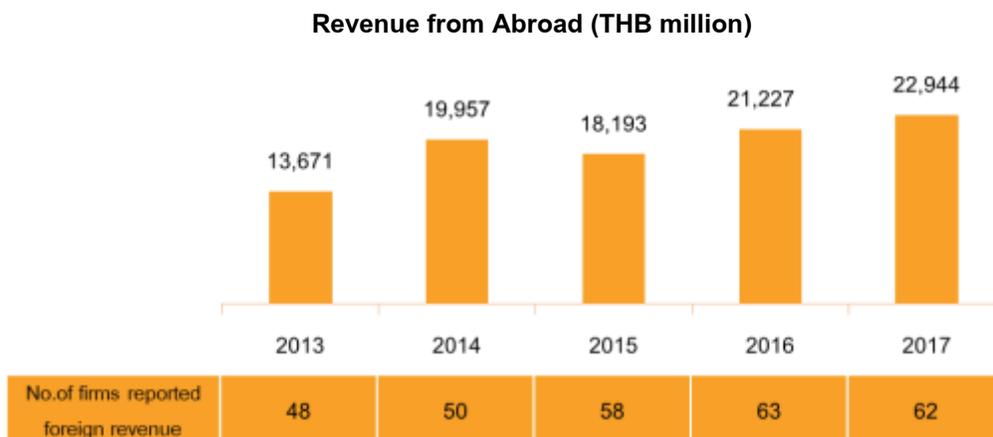
There are various OFDI options to achieve the overseas goals. In 2017, the most preferred investment method among listed firms; instead of investing on their own, were taking over, purchasing portion of shares from foreign firms and jointly investing which was accounted for 92% of the total investment flow.

The proportion of OFDI value classified by investment method



Revenue from Abroad

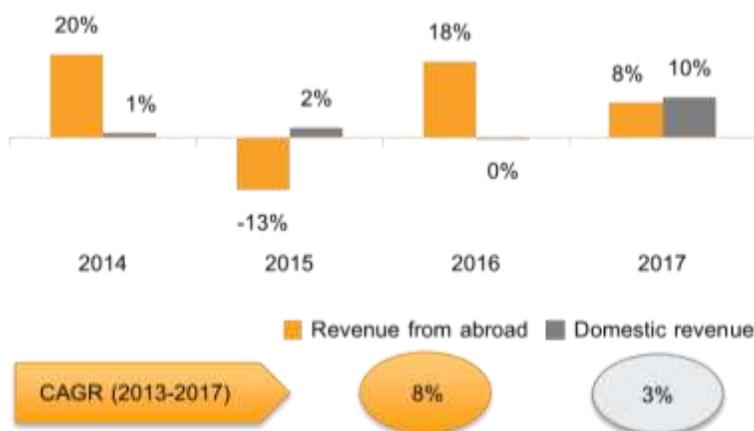
In 2017, 62 listed firms⁴ disclosed a total of THB 22.94 million foreign revenue which increased by 8% from the previous year.



In order to look into 'real' foreign revenue growth, excluding the effects of shifts in number of firms, the relevant firms would be only those who had continuously reported foreign revenue from 2013 to 2017. As such, the total of 42 listed firms has an average long term growth of 8% per annum in foreign revenue; while, having 3% average growth per annum of domestic revenue.

Average growth of revenue from abroad and domestic revenue (same firms comparison)

(Revenue of 42 firms continuously reporting from 2013-2017)

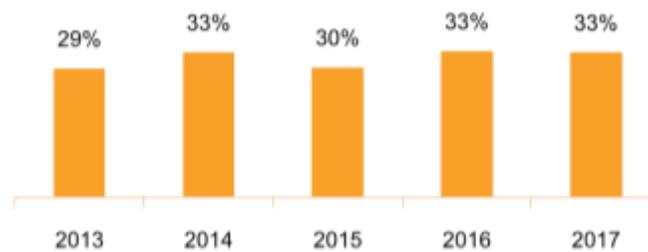


⁴ Market capitalization of these 62 firms is accounted for 39% of mai market capitalization at the end of 2017.

Looking at the long term growth from 2013 to 2017, foreign revenue has become a more important factor to the total revenue of Thai listed firms. During these years, foreign revenue of 42 firms; who had continuously reported foreign revenue, accounted for 33% of total revenue which increased from 29% in 2013.

The proportion of revenue from abroad to total revenue (same firms comparison)

(Revenue of 42 firms continuously reporting from 2013-2017)



Economic Exposure Universe

To better represent the potential of Thai listed firms to grow even further due to the linkage of Thai firms to foreign economies, the compilation of Thai listed firms undertaking OFDI and/or generating revenue from abroad (Economic Exposure Universe) was created. 'Global Economic Exposure Universe' includes firms undertaking OFDI and/or having revenue from abroad.

In 2017, Global Economic Universe consists of 73 firms in mai in which the list is shown in Appendix 7. The ASEAN Economic Exposure Universe consisted of 33 firms and CLMV Economic Exposure Universe consisted of 25 firms.

Appendix 1 Database Construction and Definition

Outward foreign direct investment (OFDI) database of listed firms in The Stock Exchange of Thailand has been created to study the current direct overseas investment activities as well as revenue from abroad of Thai listed companies. The published research paper covers all listed firms in The Stock Exchange of Thailand (SET) except every type of fund and those which are delisted and in rehabilitation. The number of firms used for compiling the database was as of the end of each year.

1.1 Data Sources

OFDI and foreign revenue data were obtained from the firms' publicly disclosed official reports such as notes of financial statement, 56-1 reports, annual reports and other corporate presentations.

1.2 Important Definitions

“Outward foreign direct investment (OFDI)” refers to investment in shares of firms abroad by investors (Thai listed firms). The investors must have controlling stakes whereby the investees can be subsidiaries, associated companies, joint ventures as well as investment assets such as factories built by the investors themselves. In addition, objectives of investment stated by listed firms have to be clearly identified. However, investment to set up an investment company or a holding firm is excluded. Portfolio investment is also excluded.

“Revenue from abroad” is the revenue derived from operation overseas and exports revenue from factories based in Thailand. Nevertheless, some firms usually classify revenue from overseas based on geographical locations of customers without indicating whether the amount is derived from operation overseas or exports. All foreign revenue that fall under these criteria will be classified as ‘revenue from abroad’.

This analysis, firms will be grouped into 2 classifications: 1. based on the **industry**, and 2. based on the **size** by using market capitalization value.

According to SET's categorization, there are 8 different industries and each **industry** consists of various **sectors** as shown in Table 1.

Table 1 Industry and Sector on SET

Industry	Sector
1. Agro & Food Industry	1.1 Agricultural Business 1.2 Food and Beverage
2. Consumer Products	2.1 Fashion 2.2 Home & Office Products 2.3 Personal Products & Pharmaceuticals
3. Financials	3.1 Banking 3.2 Finance & Securities 3.3 Insurance
4. Industrials	4.1 Automotive 4.2 Industrial Materials & Machinery 4.3 Paper & Printing Materials 4.4 Petrochemicals & Chemicals 4.5 Packaging 4.6 Steel
5. Property & Construction	5.1 Construction Materials 5.2 Property Development 5.3 Construction Services
6. Resources	6.1 Energy and Utilities 6.2 Mining

Industry	Sector
7. Services	7.1 Commerce 7.2 Health Care Services 7.3 Media & Publishing 7.4 Professional Services 7.5 Tourism & Leisure 7.6 Transportation & Logistics
8. Technology	8.1 Electronic Components 8.2 Information & Communication Technology

Also, the firms are grouped according to the market capitalization as shown below:

- 1) Listed firms in SET50 according to SET classification are in SET50 group at the end of 2017
- 2) Listed firms in SET100 according to SET classification excluded SET50 are in SET51-100 group at the end of 2017
- 3) Listed firms in Non-SET100 which ranked 101-200 in terms of market capitalization are in SET101-200 group
- 4) Listed firms in Non-SET100 which ranked 201-300 in terms of market capitalization are in SET201-300 group
- 5) Listed firms in Non-SET100 which ranked 301 onward in terms of market capitalization are in SET301⁺ group

1.3 Limitations of database

Since there are neither regulations nor standards on OFDI and revenue from abroad reporting system, listed firms may or may not report such information. As such, this database may not fully reflect all the information.

To increase efficiency and accuracy of database of OFDI and revenue from abroad in the future, Research Department at Stock Exchange of Thailand would like to propose for standardized information

disclosure and technology development for centralized OFDI and revenue from abroad information collection. However, the development of such processes may take some time.

The Stock Exchange of Thailand fully supports the access of OFDI database by responsible OFDI policy making government sectors and educational institutions that wish to pursue this information for the use of further studies that contribute to economic development.

Appendix 2 Value of Outward Foreign Direct Investment (SET)

Net OFDI value classified by industry (THB million)

	Resources	Agro & Food Industry	Industrials	Property & Construction	Services	Financials	Technology	Consumer Products	Grand Total
2006	5,875	1,933	285	5,879	182	-	932	757	15,843
2007	17,975	2,353	8,435	2,864	1,403	-	401	1,047	34,478
2008	23,746	3,420	6,299	1,411	2,825	470	1,219	1,040	40,431
2009	30,181	2,848	2,100	3,198	4,037	-	425	1,229	44,018
2010	159,705	29,711	2,641	1,781	9,377	-	1,693	338	205,246
2011	31,336	5,084	70,277	18,753	3,917	-	2,066	2,318	133,751
2012	114,444	3,586	60,011	10,388	5,539	64	1,151	261	195,443
2013	44,441	2,895	5,554	10,161	4,083	222	721	2,369	70,446
2014	35,658	39,007	6,404	19,338	10,984	1,903	1,359	659	115,310
2015	39,707	27,650	(1,479)	4,760	1,318	3,195	544	147	75,842
2016	55,935	62,009	28,669	29,443	6,849	8,638	3,963	(41)	195,465
2017	13,148	28,809	19,057	37,666	7,235	20,681	68	101	126,766
Grand Total	572,152	209,304	208,253	145,641	57,747	35,173	14,541	10,226	1,253,038

Net OFDI value classified by region (THB million)

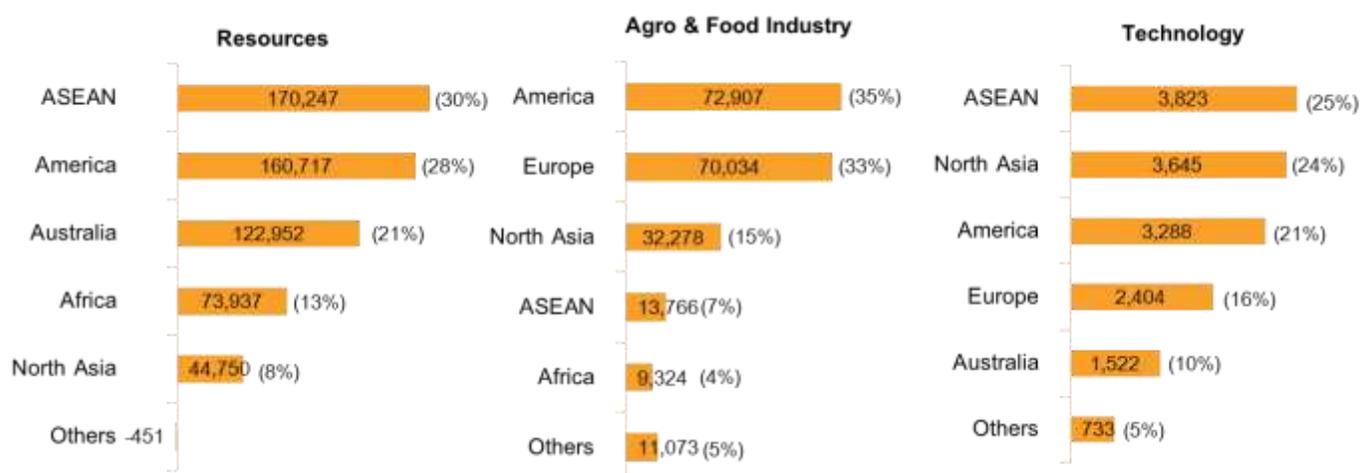
	America	ASEAN	Europe	Australia	Africa	North Asia	South Asia	Middle East	Grand Total
2006	506	9,271	616	-	-	4,973	477	-	15,843
2007	5,180	6,266	3,221	-	16,428	2,146	1,230	7	34,478
2008	169	14,230	6,521	660	379	18,145	327	-	40,431
2009	816	19,179	2,375	18,551	0	2,104	935	58	44,018
2010	69,685	20,712	29,735	70,939	321	13,541	132	182	205,246
2011	27,892	31,843	37,979	26,855	-	5,989	3,190	3	133,751
2012	41,528	58,838	30,414	2,551	59,049	2,228	835	1	195,443
2013	29,446	30,960	4,322	4,094	382	737	495	10	70,446
2014	37,610	44,480	10,893	5,287	5,768	10,347	875	51	115,310
2015	39,742	29,801	(3,753)	4,137	2,221	2,376	737	582	75,842
2016	90,271	42,810	26,512	805	672	14,735	20,466	(805)	195,465
2017	12,629	48,559	21,517	324	(1,003)	42,955	(40)	31	124,973
Grand Total	355,472	356,948	170,352	134,201	84,217	120,276	29,661	119	1,251,245

* Note: Value calculated only transactions which clearly reported country / region.

Net OFDI value classified by firm size (THB million)

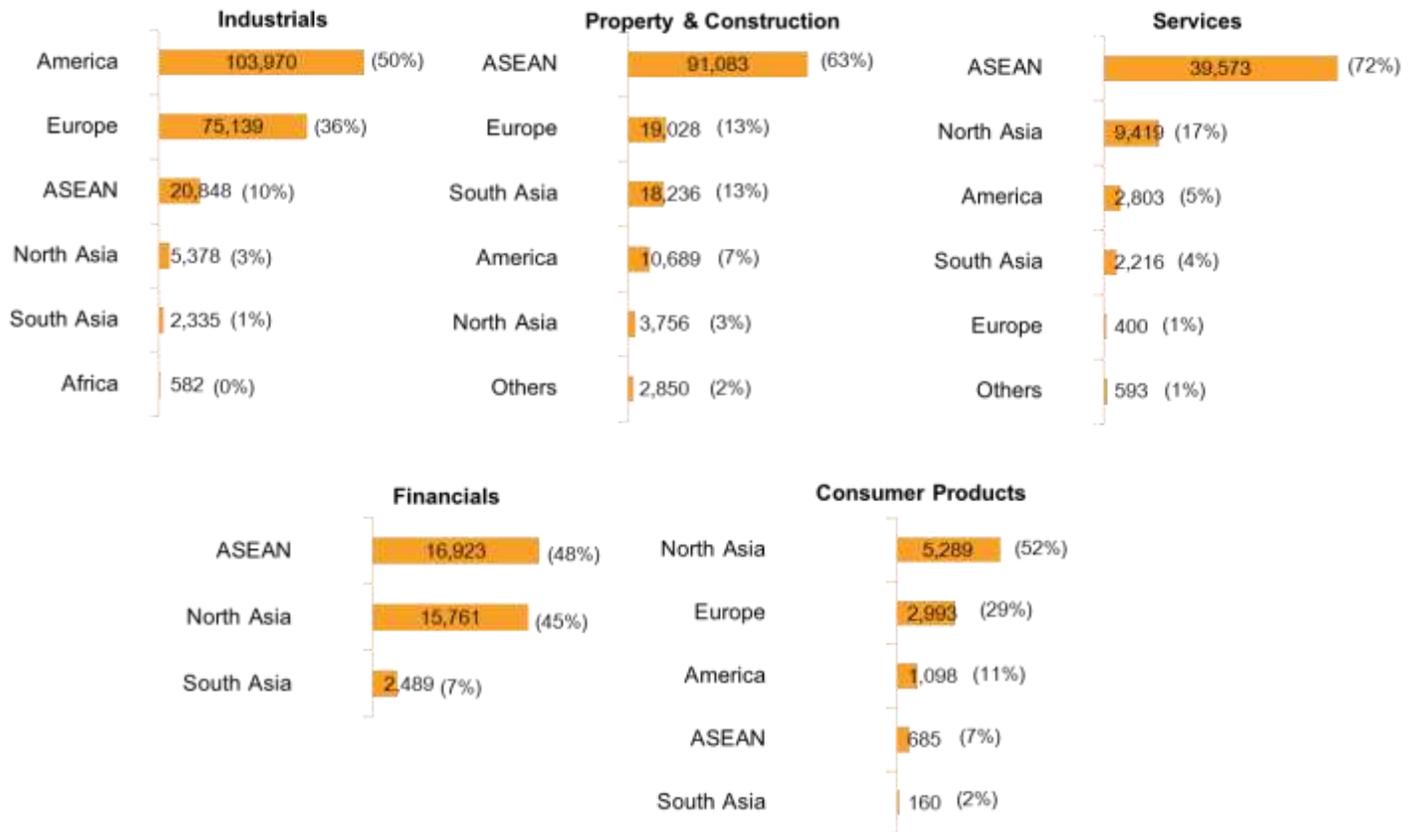
	SET50	SET51-100	SET101-200	SET201-300	SET301+	Grand Total
2006	12,538	949	2,044	172	140	15,843
2007	26,294	3,178	4,427	235	344	34,478
2008	32,675	3,331	4,292	4	129	40,431
2009	33,770	3,772	3,093	3,279	104	44,018
2010	190,650	5,932	3,236	4,753	675	205,246
2011	98,108	6,844	15,430	32	13,337	133,751
2012	171,707	7,034	4,363	414	11,925	195,443
2013	55,238	4,345	1,176	4,525	5,162	70,446
2014	97,651	6,473	5,096	947	5,143	115,310
2015	82,387	2,037	12,490	6,707	(27,779)	75,842
2016	139,013	9,442	43,708	1,165	2,137	195,465
2017	66,308	16,595	32,102	1,957	9,804	126,766
Grand Total	1,006,340	69,932	131,457	24,189	21,121	1,253,038

Accumulated net value of OFDI between 2006–2017 classified by industry and region (THB million)



Accumulated net value of OFDI between 2006 – 2017 classified by industry and region (THB million)

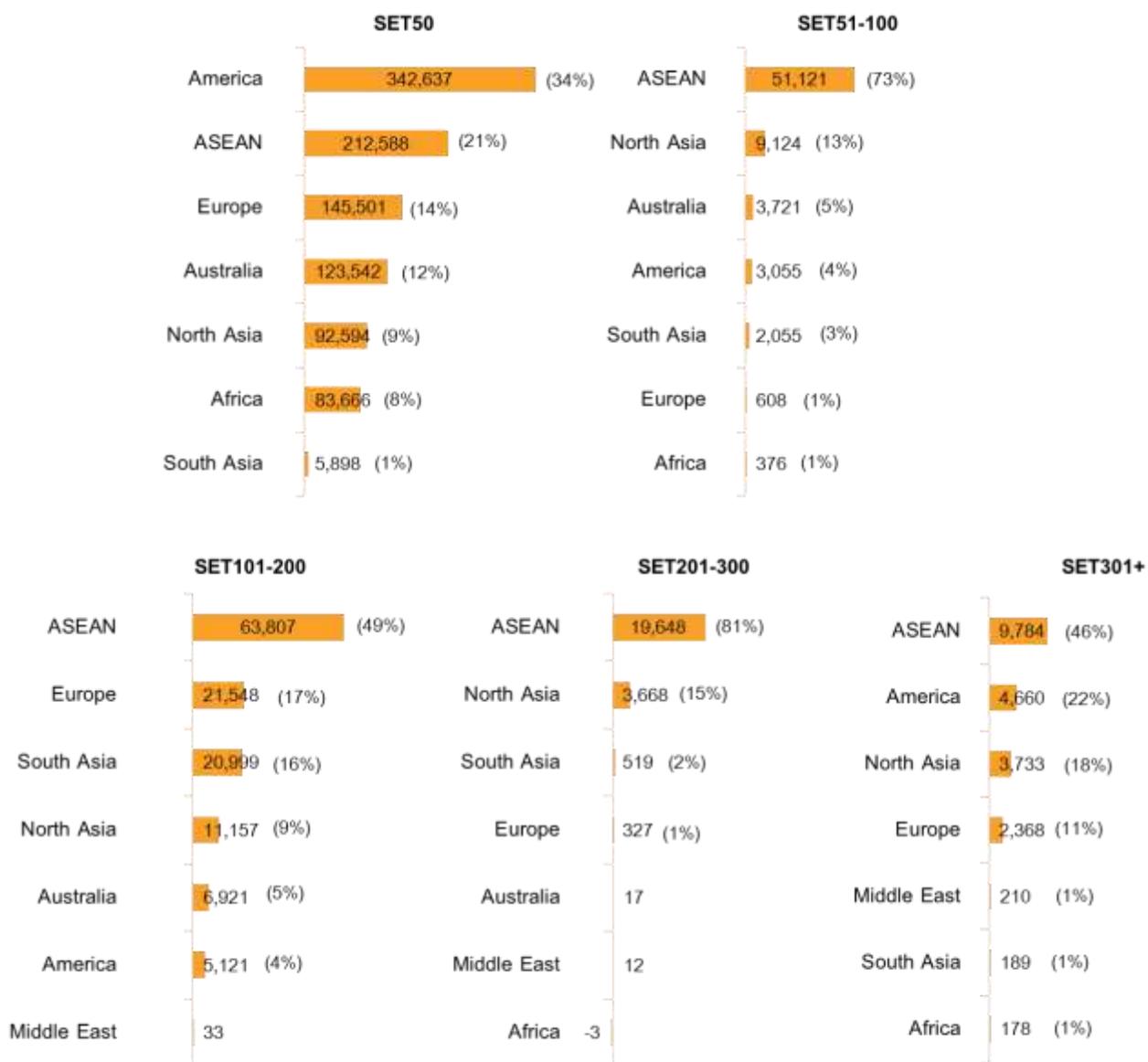
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Accumulated net value of OFDI between 2006–2017 in ASEAN classified by industry (THB million)



Accumulated net value of OFDI between 2006–2017 classified by firm size and region (THB million)



Appendix 3 Revenue from Abroad (SET)

Revenue from Abroad classified by industry (THB million)

	Resources	Agro & Food Industry	Industrials	Property & Construction	Services	Technology	Consumer Products	Financials	Grand Total	No. of firms reported foreign revenue
2006	118,359	127,668	54,413	121,441	156,547	171,738	35,906	18,229	804,301	133
2007	138,337	140,670	89,272	136,360	167,609	169,189	35,212	21,463	898,112	141
2008	251,095	211,832	122,576	150,471	157,799	188,987	35,900	13,514	1,132,174	149
2009	356,544	186,918	120,492	137,825	128,217	158,124	28,276	9,238	1,125,634	154
2010	451,652	222,509	144,066	167,575	143,998	185,275	30,614	10,454	1,356,144	154
2011	636,114	284,674	268,678	188,205	151,275	193,882	37,462	14,964	1,775,254	164
2012	749,564	462,814	490,067	208,472	161,921	170,153	40,216	12,995	2,296,201	190
2013	880,650	490,385	528,807	231,695	193,528	166,640	41,276	16,269	2,549,250	223
2014	777,785	518,357	541,882	280,880	228,941	213,577	41,706	21,126	2,624,253	244
2015	607,409	525,493	463,701	280,945	223,070	192,026	41,160	24,011	2,357,816	252
2016	546,695	586,377	457,273	286,081	218,880	170,259	41,801	27,210	2,334,576	263
2017	745,352	639,966	520,916	295,902	236,667	166,822	36,298	28,084	2,670,008	262
No. of firms reported foreign revenue										
2016	24	42	66	39	33	17	31	11	263	
2017	25	42	63	40	34	17	28	13	262	

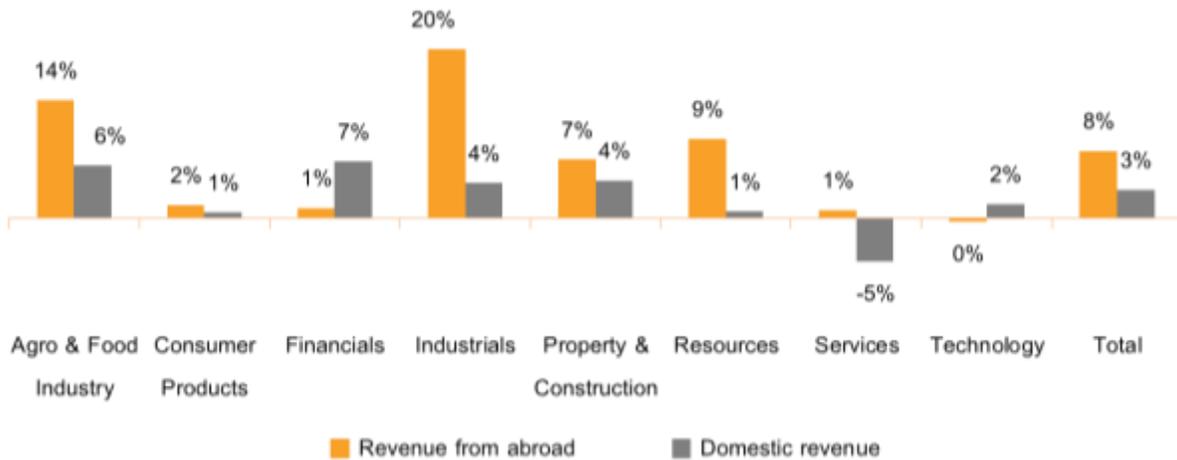
Revenue from Abroad classified by industry (same firms comparison) (THB million)

(Revenue of 112 firms continuously reporting from 2006-2017)

	Agro & Food Industry	Industrials	Resources	Property & Construction	Services	Technology	Consumer Products	Financials	Grand Total
2006	126,632	44,653	102,846	121,441	156,547	171,738	22,096	18,159	764,112
2007	139,774	64,543	102,713	136,111	167,609	169,122	22,077	19,666	821,616
2008	163,090	94,289	193,286	149,880	155,731	188,977	23,262	12,745	981,260
2009	161,933	109,960	178,770	136,438	126,171	158,118	18,489	8,926	898,805
2010	184,732	132,765	221,176	164,798	141,284	185,275	23,690	9,946	1,063,667
2011	227,602	226,865	313,575	179,691	146,913	193,854	28,934	14,129	1,331,564
2012	389,457	248,729	358,138	188,892	151,972	169,778	26,794	12,305	1,546,065
2013	417,568	268,332	362,790	207,952	151,989	165,906	29,552	12,164	1,616,252
2014	446,590	289,630	362,841	256,338	180,960	212,431	27,849	15,579	1,792,219
2015	447,681	281,590	273,453	250,108	171,487	190,605	26,883	16,607	1,658,414
2016	492,365	303,685	235,066	248,122	164,177	168,180	26,605	18,539	1,656,739
2017	533,730	332,386	276,642	254,121	174,602	164,678	26,336	20,828	1,783,323
No. of firms reported foreign revenue	20	32	6	14	4	12	20	4	112

**Average growth of revenue from abroad from 2006 to 2017
classified by industry (same firms comparison) (%CAGR)**

(Revenue of 112 firms continuously reporting from 2006-2017)



**The proportion of revenue from abroad to total revenue classified by industry
for the year 2007, 2012 and 2017 (same firms comparison)**

(Revenue of 112 firms continuously reporting from 2006-2017)



Revenue from Abroad classified by firm size (THB million)

	SET50	SET51-100	SET101-200	SET201-300	SET301+	Grand Total	No. of firms reported foreign revenue
2006	329,152	177,821	139,352	65,213	92,763	804,301	133
2007	361,095	219,485	163,559	66,537	87,436	898,112	141
2008	494,681	272,739	189,741	76,666	98,348	1,132,174	149
2009	618,816	218,290	162,801	59,247	66,480	1,125,634	154
2010	783,505	239,262	197,729	56,621	79,026	1,356,144	154
2011	1,111,240	286,113	231,775	55,887	90,239	1,775,254	164
2012	1,582,322	304,588	238,828	63,164	107,300	2,296,201	190
2013	1,779,370	349,003	232,635	71,707	116,534	2,549,250	223
2014	1,799,773	355,825	277,114	88,607	102,934	2,624,253	244
2015	1,546,764	360,303	258,691	89,743	102,314	2,357,816	252
2016	1,540,165	347,488	248,188	96,912	101,822	2,334,576	263
2017	1,841,248	366,649	268,535	90,319	103,257	2,670,008	262
No. of firms reported foreign revenue (2017)	35	27	51	45	104	262	

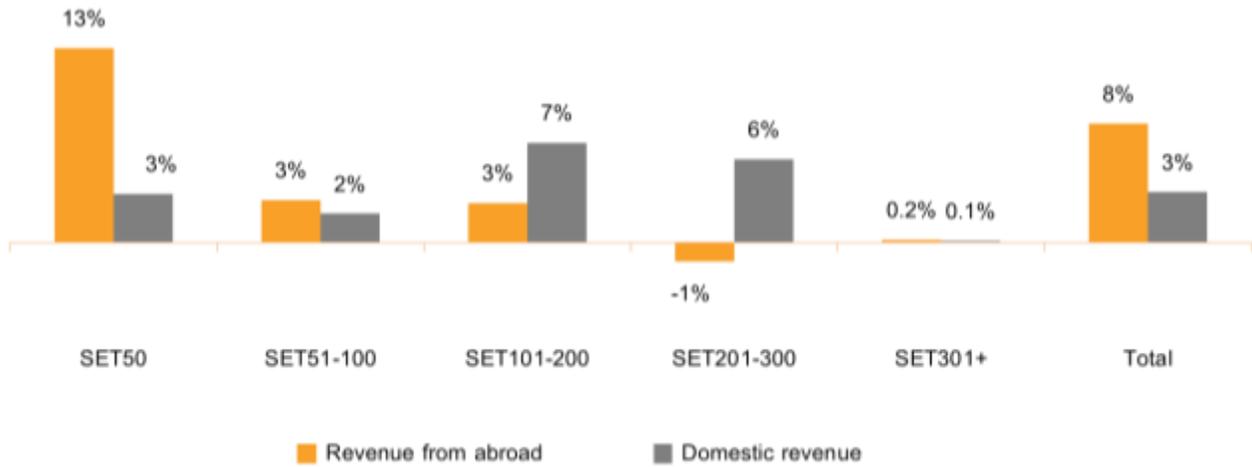
Revenue from Abroad classified by firm size (same firms comparison) (THB million)

(Revenue of 112 firms continuously reporting from 2006-2017)

	SET50	SET51-100	SET101-200	SET201-300	SET301+	Grand Total
2006	317,672	177,821	135,650	60,541	72,428	764,112
2007	347,307	199,495	150,458	59,566	64,789	821,616
2008	474,973	191,983	178,580	67,909	67,815	981,260
2009	467,622	167,736	156,953	54,786	51,708	898,805
2010	576,392	179,633	186,661	54,049	66,931	1,063,667
2011	803,800	188,814	213,090	50,960	74,900	1,331,564
2012	1,033,516	197,541	190,006	48,847	76,155	1,546,065
2013	1,100,714	206,553	182,710	51,736	74,539	1,616,252
2014	1,189,264	244,172	221,270	59,780	77,734	1,792,219
2015	1,087,229	240,602	200,118	58,847	71,619	1,658,414
2016	1,104,871	244,015	179,222	59,305	69,326	1,656,739
2017	1,232,935	242,693	181,277	52,508	73,910	1,783,323
No. of firms reported foreign revenue	13	11	16	19	53	112

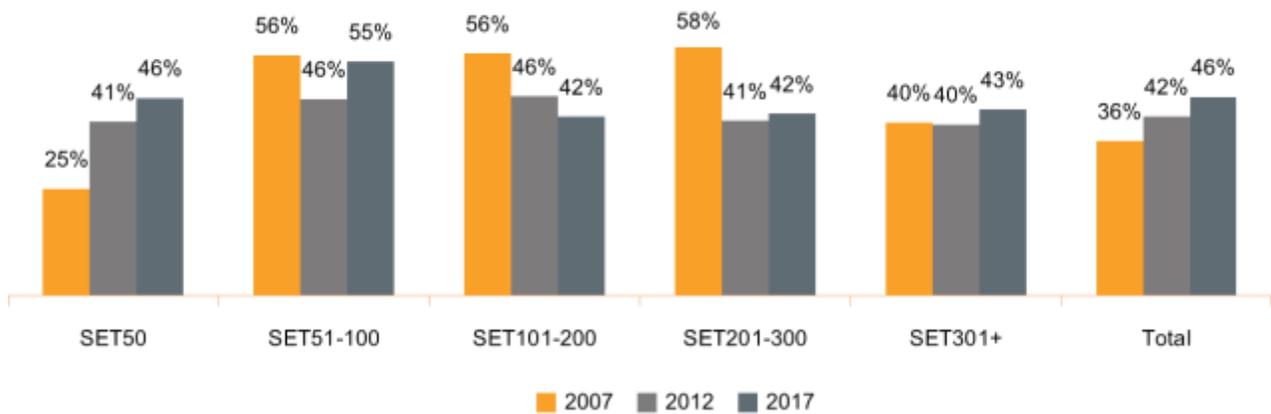
**Average growth of revenue from abroad from 2006 to 2017
classified by firm size (same firms comparison) (%CAGR)**

(Revenue of 112 firms continuously reporting from 2006-2017)

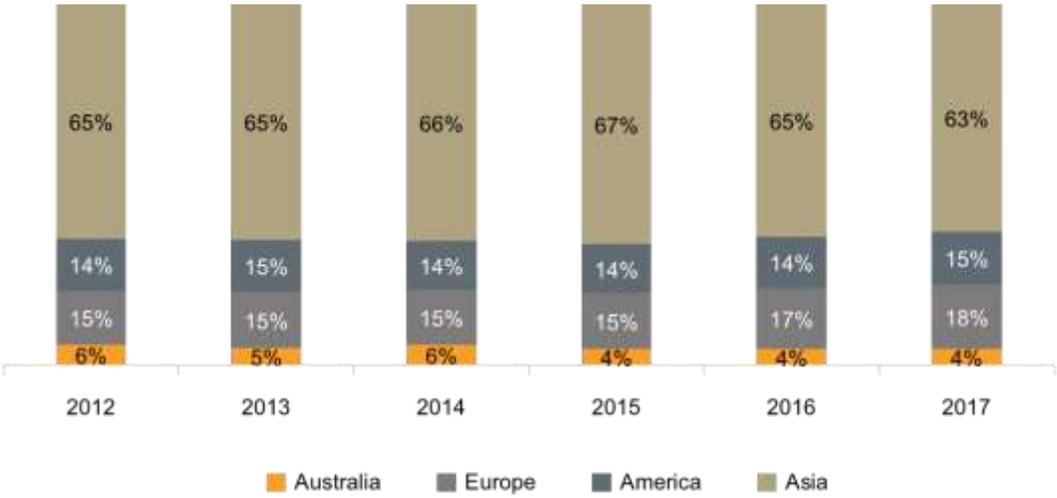


**The proportion of revenue from abroad to total revenue classified by firm's size
for the year 2007, 2012 and 2017 (same firms comparison)**

(Revenue of 112 firms continuously reporting from 2006-2017)



Revenue from abroad structure clasified by region



Appendix 4 Economic Exposure Universe (SET)

1. Thai Listed Firms in Global Economic Exposure Universe (322 firms)

Agro & Food Industry		Consumer Products	Financials	Industrials		Property & Construction		Resources	Services		Technology
APURE	PB	AFC	AEONTS	AH	SAM	AMATAV	SCC	AKR	AAV	LRH	AIT
ASIAN	PM	BTNC	BAY	AJ	SAT	BJCHI	SCCC	BANPU	AS	MACO	ALT
BR	PRG	CPH	BBL	ALUCON	SITHAI	CGD	SEAFCO	BCP	ASIA	MAJOR	CCET
BRR	SAPPE	CPL	BKI	AMC	SLP	CK	SIRI	BCPG	BA	MAKRO	DELTA
CBG	SAUCE	DDD	BLA	APCS	SMIT	CNT	SKN	BGRIM	BCH	MC	EIC
CFRESH	SFP	DTCI	CIMBT	BAT-3K	SMPC	CPN	SPALI	BPP	BDMS	MEGA	FORTH
CHOTI	SNP	ICC	FNS	CEN	SNC	DCC	SQ	CKP	BEAUTY	MIDA	HANA
CM	SORKON	JCT	FSS	CITY	SPG	DRT	SRICHA	DEMCO	BEC	MONO	HUMAN
CPF	SSC	KYE	GL	CPT	SSI	EPG	STEC	EA	BH	MPIC	ILINK
CPI	SSF	L&E	JMT	CSC	SSSC	GEL	STPI	EGCO	BJC	NOK	INTUCH
F&D	SST	LTX	KBANK	CTW	STANLY	ITD	TASCO	ESSO	BTS	PLANB	JMART
GFPT	STA	NC	KTB	CWT	SUTHA	LH	TCMC	GLOW	CENDEL	PRAKIT	KCE
ICHI	TC	OGC	NKI	EASON	TCB	MBK	TFD	GPSC	COL	PRM	METCO
KBS	TFG	PDJ	SAWAD	FMT	TCCC	NUSA	TGCI	GUNKUL	CPALL	PSL	PT
KSL	TFMAMA	PG	SCB	GGC	TCOAT	NWR	TICON	IEC	CSS	RCL	SAMART
KTIS	TIPCO	ROCK	TCAP	GYT	TFI	PACE	TOA	IRPC	DTC	ROBINS	SDC
LEE	TKN	S & J	THREL	HFT	TGPRO	PF	TPIPL	LANNA	EPCO	SHANG	SMT
LST	TLUXE	SABINA	TIP	HTECH	THIP	POLAR	TRC	MDX	ERW	SPC	SVI
M	TRUBB	SAWANG	TK	IHL	TMD	PPP	TTCL	PDI	FE	SPI	SVOA
MALEE	TU	SIAM	TMB	INGRS	TNPC	PSH	U	PTT	GLOBAL	SVH	SYMC
MINT	TVO	SUC	TVI	INOX	TOPP	Q-CON	UMI	PTTEP	GRAMMY	TBSP	TEAM
OISHI	TWPC	TNL		IRC	TPA	RCI	UV	RATCH	HMPRO	THAI	THCOM
	UVAN	TNR		IVL	TPBI	RML	VNG	SCI	III	THG	TWZ
		TOG		KKC	TRU	S	WHA	SCN	JUTHA	TKS	TRUE
		TPCORP		LHK	TSC		WIJK	SGP	JWD	TTA	
		TR		MCS	TSTH			SOLAR	KAMART	VGI	
		TSR		MILL	TWP			SPRC	LOXLEY	WAVE	
		TTI		PAP	TYCN			SUSCO		WICE	
		UPF		PCSGH	UP			TCC			
		UT		PK	UTP			TOP			
		WACOAL		PMTA	VARO			WHAUP			
				PTL	VNT						
				PTTGC	WG						

2. Thai Listed Firms in ASEAN Economic Exposure Universe (203 firms)

Agro & Food Industry	Consumer Products	Financials	Industrials	Property & Construction	Resources	Services		Technology
BR	ICC	AEONTS	AH	AMATAV	AKR	AAV	MAJOR	AIT
CBG	L&E	BAY	AMC	CK	BANPU	AS	MAKRO	ALT
CHOTI	PDJ	BBL	CEN	CNT	BCP	BA	MC	CCET
CPF	S & J	BKI	CSC	CPN	BCPG	BCH	MEGA	DELTA
CPI	TNL	BLA	CTW	EPG	BGRIM	BDMS	MIDA	FORTH
F&D	TOG	CIMBT	CWT	GEL	BPP	BEAUTY	MONO	HANA
ICHI	TPCORP	FNS	EASON	ITD	CKP	BEC	MPIC	HUMAN
KSL	TR	FSS	FMT	NWR	DEMCO	BH	NOK	ILINK
LEE	TSR	GL	HFT	PACE	EGCO	BJC	PLANB	INTUCH
M	WACOAL	JMT	HTECH	PSH	GLOW	BTS	PRAKIT	JMART
MALEE		KBANK	IHL	RML	GPSC	CENTEL	PRM	KCE
MINT		KTB	INGRS	S	GUNKUL	COL	PSL	PT
OISHI		NKI	IRC	SCC	IEC	CPALL	RCL	SAMART
SAPPE		SAWAD	IVL	SCCC	LANNA	CSS	ROBINS	SDC
SNP		SCB	KKC	SEAFCO	MDX	DTC	SHANG	SVI
STA		THREL	MILL	SIRI	PDI	ERW	SPC	THCOM
TFG		TIP	PK	SPALI	PTT	FE	SPI	
TFMAMA		TK	PMTA	SQ	PTTEP	GLOBAL	SVH	
TKN		TMB	PTTGC	STEC	RATCH	HMPRO	TBSP	
TRUBB		TVI	SAM	TASCO	SCI	III	THAI	
TU			SITHAI	TCMC	SGP	JUTHA	THG	
TWPC			SLP	TICON	SUSCO	JWD	TKS	
UVAN			SPG	TOA	TCC	KAMART	TTA	
			SSSC	TTCL	TOP	LOXLEY	VGI	
			STANLY	WHA	WHAUP	LRH	WAVE	
			SUTHA	WIIK		MACO	WICE	
			TCB					
			TCCC					
			TOPP					
			TPBI					
			WG					

3. Thai Listed Firms in CLMV Economic Exposure Universe (152 firms)

Agro & Food Industry	Consumer Products	Financials	Industrials	Property & Construction	Resources	Services		Technology
CBG	ICC	AEONTS	AMC	AMATAV	AKR	AAV	MC	ALT
CPF	L&E	BAY	CEN	CK	BANPU	BA	MEGA	DELTA
KSL	PDJ	BBL	CTW	CNT	BGRIM	BCH	MIDA	FORTH
LEE	TOG	BKI	CWT	GEL	BPP	BDMS	MONO	HANA
M	TR	BLA	EASON	ITD	CKP	BEAUTY	MPIC	ILINK
MINT	TSR	CIMBT	HTECH	NWR	DEMCO	BEC	NOK	JMART
OISHI	WACOAL	FNS	IRC	PSH	EGCO	BH	PLANB	PT
SNP		FSS	IVL	SCC	GLOW	BJC	PRAKIT	SAMART
STA		GL	MILL	SCCC	GPSC	CENTEL	RCL	SDC
TFG		JMT	PK	SEAFCO	GUNKUL	COL	ROBINS	SVI
TFMAMA		KBANK	PMTA	SQ	MDX	CPALL	SHANG	THCOM
TRUBB		KTB	PTTGC	STEC	PDI	CSS	SPC	
TU		NKI	SAM	TASCO	PTT	FE	SPI	
TWPC		SAWAD	SITHAI	TOA	PTTEP	GLOBAL	SVH	
		SCB	SLP	TTCL	RATCH	III	TBSP	
		THREL	SPG	WHA	SCI	JWD	THAI	
		TIP	SSSC		SGP	KAMART	THG	
		TK	STANLY		SUSCO	LOXLEY	TKS	
		TMB	SUTHA		TOP	MAJOR	TTA	
		TVI	TCB		WHAUP	MAKRO	WAVE	
			TCCC					
			TOPP					
			TPBI					
			WG					

Appendix 5 Value of Outward Foreign Direct Investment (mai)

Net OFDI value classified by industry (THB million)

	Resources	Property & Construction	Industrials	Technology	Consumer Products	Agro & Food Industry	Services	Financials	Grand Total
2013	0	838	-15	-5	0	0	24	8	849
2014	0	97	72	0	0	4	100	0	273
2015	321	163	273	316	57	0	-2	0	1,127
2016	496	860	355	2	-61	-13	17	0	1,655
2017	5,061	45	464	7	311	268	29	25	6,210
Grand Total	5,878	2,002	1,148	319	308	259	168	33	10,116

Net OFDI value classified by region (THB million)

	North Asia	ASEAN	Europe	Australia	South Asia	America	Grand Total
2013	-18	867	0	0	0	0	849
2014	37	221	1	0	7	7	273
2015	517	554	45	0	12	0	1,127
2016	474	1,019	137	0	25	0	1,655
2017	5,054	645	268	214	28	0	6,210
Grand Total	6,064	3,306	451	214	72	7	10,116

Accumulated net value of OFDI between 2013–2017 classified by industry and region (THB million)

	Resources	Property & Construction	Industrials	Technology	Consumer Products	Agro & Food Industry	Services	Financials	Grand Total
North Asia	5,573	102	405	-	-3	-13	-	-	6,064
ASEAN	305	1,686	480	319	311	4	168	33	3,306
Europe	-	-	183	-	-	268	-	-	451
Australia	-	214	-	-	-	-	-	-	214
South Asia	-	-	72	-	-	-	-	-	72
America	-	-	7	-	-	-	-	-	7
Grand Total	5,878	2,002	1,148	319	308	259	168	33	10,116

Appendix 6 Revenue from Abroad (mai)

Revenue from Abroad classified by industry (THB million)

	Agro & Food Industry	Consumer Products	Financials	Industrials	Property & Construction	Resources	Services	Technology	Grand Total	No.of firms reported foreign revenue
2013	1,407	922	-	6,284	149	3,192	891	826	13,671	48
2014	1,618	907	298	6,741	2,559	6,005	915	915	19,957	50
2015	2,962	943	337	7,751	1,424	2,680	1,130	965	18,193	58
2016	3,195	927	141	9,148	1,742	4,054	1,155	865	21,227	63
2017	3,144	940	383	10,440	1,075	4,634	1,042	1,286	22,944	62
No.of firms reported foreign revenue										
2016	5	5	2	27	8	5	6	5	63	
2017	5	5	2	27	8	5	5	5	62	

Revenue from Abroad classified by industry (same firms comparison) (THB million)

(Revenue of 42 firms continuously reporting from 2013-2017)

	Agro & Food Industry	Consumer Products	Industrials	Property & Construction	Resources	Services	Technology	Grand Total
2013	1,407	922	6,283	133	3,093	863	826	13,528
2014	1,618	907	6,719	158	5,042	867	915	16,224
2015	1,571	943	6,822	125	2,678	1,093	939	14,170
2016	1,728	927	8,121	95	4,005	1,139	737	16,752
2017	1,677	940	8,989	78	4,561	1,030	858	18,135
No.of firms reported foreign revenue	3	5	22	3	4	3	2	42

Appendix 7 Economic Exposure Universe (mai)

1. Thai Listed Firms in Global Economic Exposure Universe (73 firms)

Agro & Food Industry	Consumer Products	Financials	Industrials		Property & Construction	Resources	Services	Technology
FC	APCO	ACAP	2S	SALEE	ARROW	AGE	DCORP	COMAN
KASET	ECF	AIRA	ADB	SANKO	BKD	QTC	EFORL	PLANET
MM	HPT	BROOK	CHO	SELIC	BSM	SEOIL	KOOL	SIMAT
SUN	NPK		CHOW	SWC	BTW	SSP	NCL	UPA
TACC	OCEAN		CIG	TAPAC	DIMET	TRT	OTO	VCOM
XO			COLOR	TMC	HYDRO	TSE	PHOL	
			CPR	TMI	K	UWC	PICO	
			FPI	TPAC	PPS		QLT	
			GTB	UAC	STAR		TNDT	
			KCM	UBIS	VTE			
			MBAX	UEC				
			NDR	UREKA				
			PIMO	YUASA				
			PJW					
			PPM					

2. Thai Listed Firms in ASEAN Economic Exposure Universe (33 firms)

Agro & Food Industry	Consumer Products	Financials	Industrials	Property & Construction	Resources	Services	Technology
FC	ECF	ACAP	2S	BKD	AGE	DCORP	SIMAT
KASET		AIRA	ADB	HYDRO	QTC	EFORL	UPA
			CHO	K	SEOIL	KOOL	VCOM
			GTB	PPS	UWC	NCL	
			KCM	VTE		OTO	
			SALEE			PHOL	
			TAPAC			QLT	
			UEC			TNDT	

3. Thai Listed Firms in CLMV Economic Exposure Universe (25 firms)

Agro & Food Industry	Consumer Products	Industrials	Property & Construction	Resources	Services	Technology
FC	ECF	2S	BKD	AGE	EFORL	SIMAT
KASET		ADB	HYDRO	QTC	KOOL	UPA
		GTB	K	UWC	OTO	VCOM
		KCM	VTE		PHOL	
		SALEE			QLT	
		UEC			TNDT	

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Researchdepartment@set.or.th

www.set.or.th/setresearch

Analyst: Patamaporn Nitichai

Assistant Analyst: Pantawat Julasukhon

Pansa Mahakittikun

Kamonchanok Awakatjakkrawan

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