Chapter 5

Thailand

Ruth Banomyong

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5.1. Introduction

In Thailand, herd immunity from COVID-19 has not yet been achieved, and the roll-out of the vaccination programme has been haphazard. Access to vaccines has also been difficult due to limited quantities and distribution capabilities.

The economy of Thailand has suffered, with at least one official lockdown in 2020 and a more recent unofficial lockdown in June 2021 for the Bangkok metropolitan area. GDP growth was estimated at −6.1% for 2020, and it is expected to be only 0.7% for 2021.[9] As of 1 November 2021, the country is open to fully vaccinated visitors from low-risk countries, without quarantine, in an effort to boost its economy. However, the emergence of the Omicron variant may derail the country's recovery efforts.

5.2. Trade Assessment

Thailand's trade sector is the portion of the economy that produces tradable goods, and thus exports and/or competes with imports. It is also considered the portion of the economy that engages in international trade, exporting and/or importing or providing trade services. In this chapter, the focus is on freight, that is, goods carried from one place to another by ship, aircraft, train, or truck, or the system of transporting these goods. Although the term 'trade sector' is used, the data presented to reflect trade are the actual export and import volumes before and during the pandemic.

5.2.1. Pre-Pandemic Trade Assessment

Thailand – as an export-driven economy – is dependent upon merchandise trade. Table 5.1 describes the overall volume growth rates of the country before the pandemic.

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[9] Bank of Thailand, Forecast Summary as of 30 November 2022, https://www.bot.or.th/English/MonetaryPolicy/MonetPolicyComittee/MPR/Pages/default.aspx (accessed 9 December 2021).

Table 5.1: Thailand's Export Growth Rate, 2016–2019 (%)

	Q1	Q2	Q3	Q4
2016				
Growth rate, year-on-year	1.23	(0.81)	(0.49)	1.66
Growth rate (over previous period)	0.46	(3.12)	4.96	(0.48)
Volume Index (2005=100)	157.30	152.34	159.95	159.18
Volume Index, seasonally adjusted (2005=100)	154.09	149.94	150.80	153.94
2017				
Growth rate, year-on-year	2.63	4.71	5.66	6.53
Growth rate (over previous period)	1.41	(1.16)	8.92	(2.42)
Volume Index (2005=100)	161.43	159.56	173.79	169.58
Volume Index, seasonally adjusted (2005=100)	157.39	157.23	163.78	164.20
2018				
Growth rate, year-on-year	6.49	8.47	0.11	1.077
Growth rate (over previous period)	1.37	0.67	0.52	(1.48)
Volume Index (2005=100)	171.91	173.07	173.97	171.4
Volume Index, seasonally adjusted (2005=100)	167.31	171.18	163.87	166.44
2019				
Growth rate, year-on-year	(4.09)	(4.35)	(0.65)	(5.59)
Growth rate (over previous period)	(3.81)	0.41	4.41	(6.38)
Volume Index (2005=100)	164.87	165.55	172.84	161.81
Volume Index, seasonally adjusted (2005=100)	159.82	164.09	162.94	157.41

() = negative.
Source: UNCTAD, Volume Growth Rates of Merchandise Exports and Imports Quarterly, UNCTADStats, https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=99 (accessed 25 August 2021).

Exports of freight in volume have shown a steady increase, followed by a slow decrease starting in the third quarter of 2018. The data show that volume grew from 2016 to 2017, and that the last three quarters of 2018 decreased in growth. It started to improve in the second and third quarters of 2019, dropping again by the end of the fourth quarter of 2019.

The total volume number was the highest in the second quarter of 2018 (173.18), with a steady increase from 2016 and 2017. This started to drop in the third quarter of 2018, then had the biggest drop in the first quarter of 2019 (159.82). The second and third quarters of 2019 saw a slight increase again, then dropped in the fourth quarter.

The data show that even before the pandemic, export growth in Thailand was declining. This was particularly true for 2019 due to the relative high value of the Thai baht against the US dollar and the erosion of Thai export competitiveness due to an increased labour force.

Table 5.2: Overview of Thailand's Import Growth Rate, 2016–2019 (%)

	Q1	Q2	Q3	Q4
2016				
Growth rate, year-on-year	(7.48)	(3.05)	(2.17)	2.72
Growth rate (over previous period)	(6.52)	2.16	3.13	4.30
Volume Index (2005=100)	131.24	134.07	138.27	144.21
Volume Index, seasonally adjusted (2005=100)	131.52	130.25	135.11	138.32
2017				
Growth rate, year-on-year	5.94	7.89	8.51	7.29
Growth rate (over previous period)	(3.59)	4.03	3.73	3.13
Volume Index (2005=100)	139.04	144.65	150.04	154.73
Volume Index, seasonally adjusted (2005=100)	138.73	141.26	146.79	148.07
2018				
Growth rate, year-on-year	10.17	8.02	9.22	3.38
Growth rate (over previous period)	(1.00)	1.99	4.88	(2.38)
Volume Index (2005=100)	153.19	156.24	163.87	159.97
Volume Index, seasonally adjusted (2005=100)	153.35	153.46	160.75	152.67
2019				
Growth rate, year-on-year	(3.10)	(3.95)	(7.29)	(8.61)
Growth rate (over previous period)	(7.21)	1.10	1.22	(3.76)
Volume Index (2005=100)	148.44	150.08	151.92	146.20
Volume Index, seasonally adjusted (2005=100)	146.49	147.90	149.53	139.39

() = negative.
Source: UNCTAD, Volume Growth Rates of Merchandise Exports and Imports Quarterly, UNCTADStats, https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=99 (accessed 5 October 2021).

As shown in Table 5.2, imports of freight faced highs and lows from 2016 to 2019. The most significant drops in growth rates were in the first quarter of 2016 (−7.48%) and the last quarter of 2019 (−8.61%). Imports were generally high from 2017 to the third quarter of 2018, before decreasing in the fourth quarter of 2018.

The total volume number was the highest in the third quarter of 2018 (163.87), while the lowest was in the first quarter of 2016 (131.52). Volume numbers were relatively higher from the last quarter of 2016 to the third quarter of 2018, before dropping the next quarters. Thus, the data show that even before the pandemic, import rates were already on a steady decline.

Domestic freight volumes also suffered before the pandemic (Table 5.3 and Figure 5.1). Freight volume for road transport remained relatively constant, although air freight volumes suffered.

Table 5.3: Domestic Freight Volume, Thailand, 2016–2019

Mode	2016	2017	2018	2019
Road ('000 tonnes)	484,884	482,596	483,760	483,168
Growth Rate (%)	0.5	(0.5)	0.2	(0.1)
Rail ('000 tonnes)	11,937	11,695	10,232	10,262
Growth Rate (%)	4.8	(2.0)	(12.5)	0.3
Water ('000 tonnes)	101,222	113,876	117,537	123,532
Growth Rate (%)	(1.5)	12.5	3.2	5.1
Inland Water ('000 tonnes)	50,327	53,026	55,739	57,242
Growth Rate (%)	(1.1)	5.4	5.1	2.7
Coastal ('000 tonnes)	50,895	60,850	61,798	66,290
Growth Rate (%)	(1.9)	19.6	1.6	7.3
Air ('000 tonnes)	120	112	97	74
Growth Rate (%)	4.3	(6.7)	(13.4)	(23.7)
Total ('000 tonnes)	**598,163**	**608,279**	**611,626**	**617,036**
Growth Rate (%)	**0.3**	**1.7**	**0.6**	**0.9**

() = negative.
Source: NESDC (2020).

Figure 5.1: Total Domestic Freight Volume, Thailand, 2016–2019 ('000 tonnes)
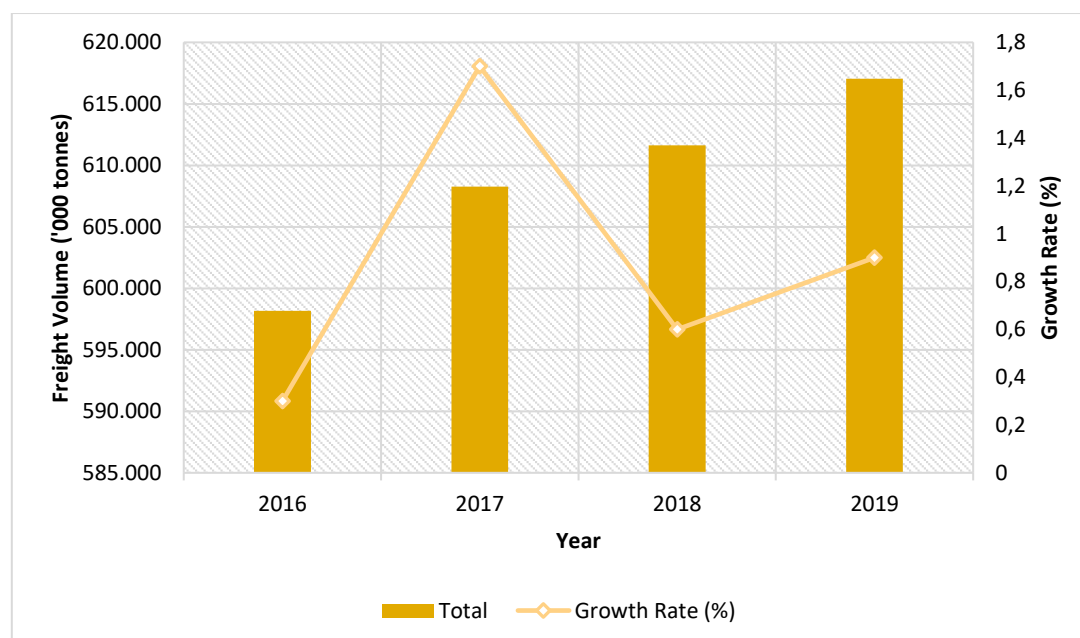
Source: NESDC (2020).

The overall domestic trade volume showed limited growth before the pandemic, a reflection of the country's overall economic slowdown. Domestic air freight had a negative growth rate of –23.7% in 2019, the lowest out of the other modes. Pre-pandemic, the best year for freight volume growth was 2017, with 1.7%. The logistics sector growth rate in 2017 was 4.2%, compared to the GDP growth rate of 6.4%. The logistics cost–GDP ratio at the time was 13.5%.[10] In recent years, economic growth slowed from 4.2% in 2018 to 2.4% in 2019 due to weaker demand for exports, reflecting the impact of US–China trade tensions, slower public investments, and a drought that impacted agricultural production.[11]

Table 5.4 details domestic water transport. It is interesting to note that the unit of analysis is in tonnes, not containers. This reflects that domestic water freight – both inland and coastal – is mainly composed of bulk items. Laem Chabang and Bangkok ports dominate in terms of volumes. Chiang Saen Port, located along the Mekong River, is the third-most important port in terms of volume. This port serves as an export port, as import volumes are limited.

Overall volumes do not vary much, and in 2019, the overall volume was less than 2018 and 2017 (Figure 5.2). Water transport freight by port increased in arrivals by the end of 2019. Departures, on the other hand, steadily increased in 2017 and 2018 then dropped in 2019.

**Table 5.4: Water Freight at Main Ports, 2016–2019 (tonnes)**

	2016		2017	
Port	**Arrival**	**Departure**	**Arrival**	**Departure**
Bangkok Port	11,966,250	9,100,496	11,287,516	9,274,594
Chiang Saen Port	5,403.98	201,368.14	4,252.64	240,208.72
Chiang Khong Port	840	82,398.55		82,398.55
Ranong Port	41,917	87,670	15,717	63,291
Laem Chabang Port	29,888,726.55	48,468,185.78	33,115,544.44	50,511,447.20
Total	**41,903,137.53**	**57,940,118.47**	**44,423,030.08**	**60,169,326.61**
	2018		2019	
Bangkok Port	11,006,704	8,851,151	12,462,637	8,144,375
Chiang Saen Port	2,574.47	21,599.58	2,053.03	269,688.23
Chiang Khong Port	300	67,177.25	69	37,931.65
Ranong Port	18,583	84,599	23,865	108,486
Laem Chabang Port	35,324,621.70	52,134,259.03	36,622,719.80	51,126,409.19
Total	**46,352,783.20**	**61,158,785.86**	**49,111,343.80**	**59,686,890.07**

Source: Thailand Ministry of Transport.

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[10] World Bank, The World Bank in Thailand, https://www.worldbank.org/en/country/thailand/overview#1 (accessed 2 January 2022).
[11] Ibid.

Figure 5.2: Total Freight, Water, by Thai Port, 2016–2019 (tonnes)
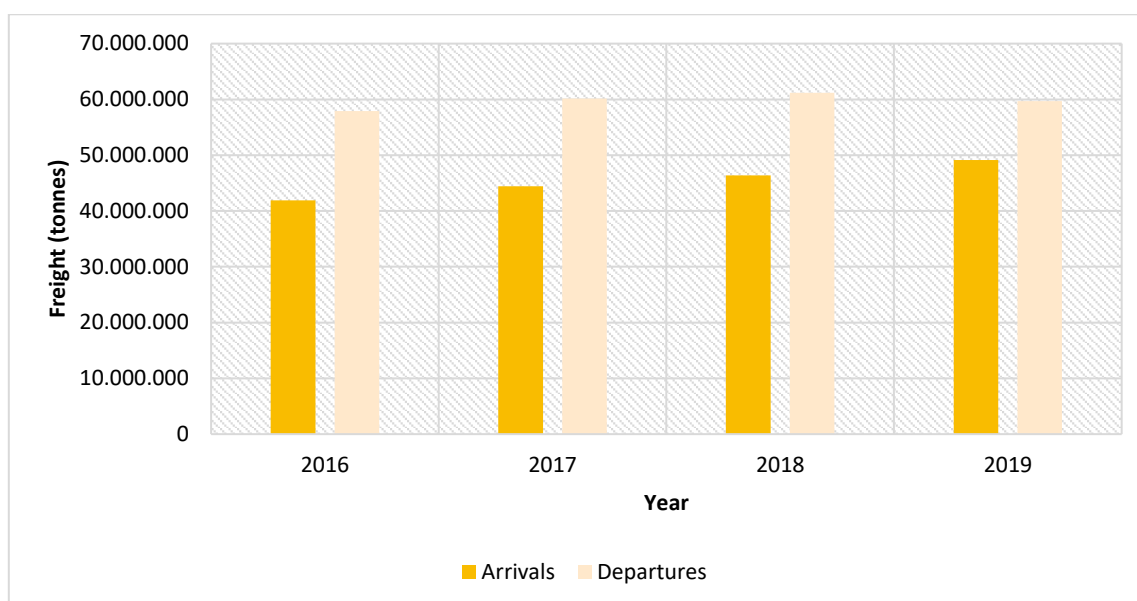
Source: Thailand Ministry of Transport.

The total number of containers increased steadily from 2016 to 2018 before dropping by the end of 2019 (Table 5.5). The ports of Bangkok and Laem Chabang decreased their numbers in total, while the Ranong Port increased its number. Thus, reductions had already began before the pandemic.

Table 5.5: Maritime Containers at Thai Ports, 2016–2019 (TEU)

Port	2016	2017	2018	2019
Bangkok Port	1,498,009	1,496,227	1,487,594	1,463,933
Ranong Port	2,857	2,643	2,517	3,925
Laem Chabang Port	7,227,431	7,784,498	8,074,591	7,980,533
Total	**8,728,297**	**9,283,368**	**9,564,702**	**9,448,391**

TEU = 20-foot equivalent unit.
Source: Thailand Ministry of Transport.

Cement and other miscellaneous items were increasingly transported pre-pandemic by rail (Table 5.6). Transporting equipment and other manufactured articles by rail saw a massive increase in 2017 and 2018, before dropping in 2019. Rail transport generally saw significant growth in 2017 and 2018, but this began to decrease by the end of 2019 due to higher costs of double handling as well as increased rail inefficiency (NESDC, 2020).

Table 5.6: Rail Freight Transport, Thailand, 2016–2019 ('000 tonnes)

Commodity Group	2016	2017	2018	2019
Cassava	2.17	2.91	0.15	0.26
Other Agricultural Products	0.04	0.04	0.03	0.03
Animal Fodder	4.48	3.01	0.24	0.49
Sugars	0.52	0.67	0.00	0.00
Other Foodstuffs	6.11	5.80	0.47	0.51
Petroleum Products	2,478.82	2,321.14	1,949.64	1,847.15
Cement	1,549.45	1,744.89	1,870.83	1,906.57
Fertilizers	0.03	0.00	0.00	0.00
Other Minerals	0.00	0.00	2.80	0.00
Equipment, Other Manufactured Articles	12.54	272.41	439.54	108.93
Miscellaneous Articles, Containers	7,882.39	7,343.82	5,968.02	6,397.89
Total	**11,937.09**	**11,694.89**	**10,231.72**	**10,261.83**

Source: Thailand Ministry of Transport.

Pre-pandemic air freight levels had a significant drop in domestic transport starting from 2017, particularly Don Muang Airport (Table 5.7 and Figure 5.3). All airports had negative growth rates for freight in 2019. This is an interesting trend that reflects the contraction for domestic air freight demand. The possible reason is the slowdown of the Thai economy, as transport is a derived demand of trade.

Indeed, before the pandemic, domestic freight volumes were relatively stagnant, with certain modes of transport suffering from the constant decrease. These were signs that the Thai economy was not really growing.[12] The GDP growth rate for 2019 was 2.27%, a 1.92% decline from 2018; 4.19% in 2018, only a 0.01% increase from 2017; and 4.18% in 2017, a 0.74% increase from 2016.[13]

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[12]   Macrotrends,   Thailand   GDP   Growth   Rate,   1961–2023, https://www.macrotrends.net/countries/THA/thailand/gdp-growth-rate (accessed 30 September 2021).
[13] Ibid.

Table 5.7: Air Freight in Thailand, 2016–2019 (tonnes)

Airport	Domestic (tonnes)	Growth Rate (%)	Domestic (tonnes)	Growth Rate (%)
	2016		**2017**	
Suvarnabhumi	46,105	14.22	45,275	(1.80)
Don Muang	25,812	11.95	19,064	(26.14)
Chiang Mai	17,899	0.99	16,380	(8.75)
Hat Yai	11,938	(1.72)	11,568	(3.10)
Phuket	14,676	3.89	15,672	6.79
Chiang Rai	5,484	4.00	4,827	(11.98)
Total	**121,904**	**8.18**	**112,786**	**(7.53)**
	2018		**2019**	
Suvarnabhumi	39,719	(12.27)	30,853	(22.32)
Don Muang	8,239	(56.78)	5,525	(32.94)
Chiang Mai	12,998	(20.65)	10,318	(20.62)
Hat Yai	8,425	(27.17)	7,663	(9.04)
Phuket	15,864	1.23	11,592	(26.93)
Chiang Rai	3,545	(26.56)	2,535	(28.49)
Total	**88,790**	**(21.28)**	**68,486**	**(22.87)**

()= negative.
Source: Thailand Ministry of Transport.

Figure 5.3: Air Transport of Freight and Mail in Thailand (tonnes)
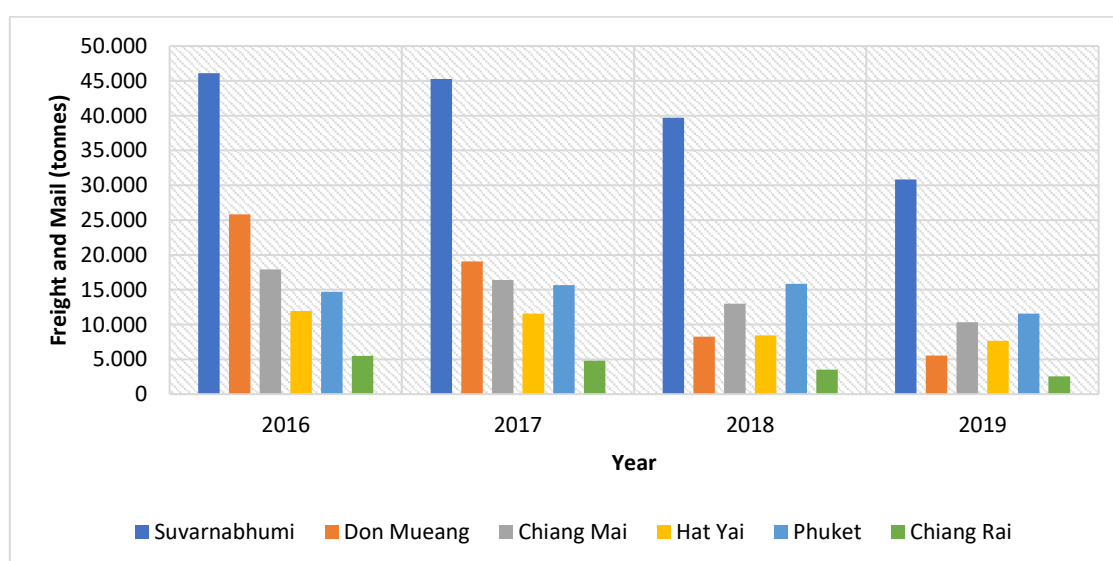

Source: Thailand Ministry of Transport.

International trade is crucial for Thailand. International freight transport reflects the volumes of goods being imported and exported from the country (Table 5.8 and Figure 5.4).

Table 5.8: International Freight Volume, Thailand, 2016–2019

Mode	2016	2017	2018	2019
Road ('000 tonnes)	34,009	35,904	35,899	36,557
Growth Rate (%)	1.3	5.7	0.0	1.8
Rail ('000 tonnes)	223	324	402	413
Growth Rate (%)	77.0	45.3	24.1	2.7
Maritime ('000 tonnes)	290,480	274,868	304,898	290,609
Growth Rate (%)	(11.3)	(5.4)	10.9	(4.7)
Air ('000 tonnes)	509	543	634	787
Growth Rate (%)	(1.4)	6.7	16.7	24.1
Total ('000 tonnes)	**325,221**	**311,639**	**341,431**	**328,366**
Growth Rate (%)	**(10.1)**	**(4.2)**	**9.6**	**(3.8)**

Source: NESDC (2020).

Figure 5.4: International Freight Volume, Thailand, 2016–2019
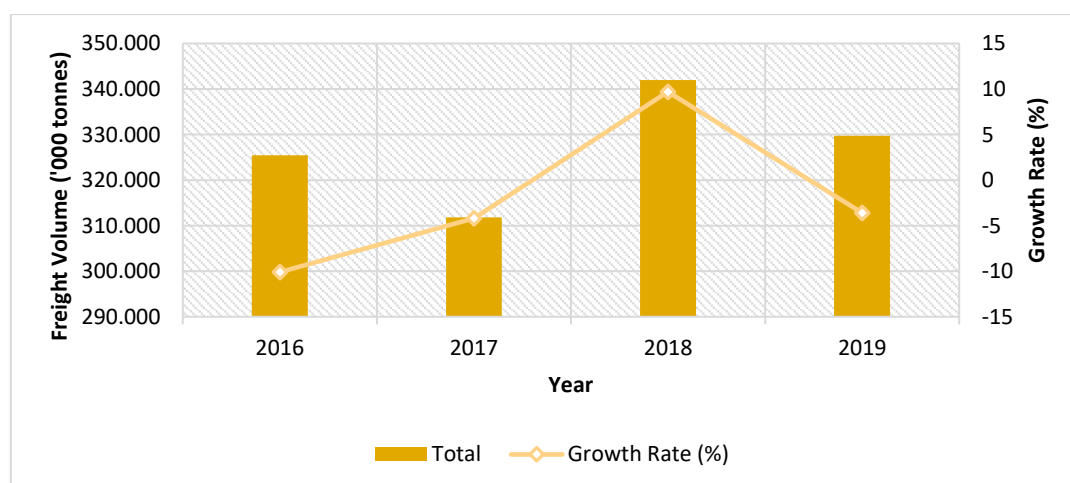
Source: NESDC (2020).

International freight volumes in Thailand suffered from a continuous decline, except in 2018. The total growth rate for all means of transport by the end of 2019 was –3.6%. Compared to 2016 (–10.1%), the growth rate at the end of 2019 was better. However, compared to 2018 (9.7%), there is a large difference between the 2 years. The biggest decreases in growth between 2018 and 2019 were in water transport and rail at –4.3% and 2.7%, respectively. Indeed, the most affected mode of transport was maritime transport – the dominant mode of transport for Thailand's international trade – while

international air freight saw continuous year-on-year increases since 2017. Thus, the growth of air freight and decline of maritime transport show a shift in Thailand's global value chain connectivity.

Regarding air freight, there were significant changes; 2017 saw a total change of 11.26% from the previous year, then dropping to 4.47% in 2018 (Table 5.9). The biggest change is from 2018 to –11.12% in 2019. Apart from the Chiang Mai, Chiang Rai, and Hat Yai airports, the majority of airports witnessed a decrease in freight transport.

Table 5.9: International Freight and Mail, Thailand, 2016–2019

Airport	International (tonnes)	Growth Rate (%)	International (tonnes)	Growth Rate (%)
	2016		**2017**	
Suvarnabhumi	1,260,330	5.89	1,394,666	10.66
Don Mueang	42,072	87.56	48,713	15.78
Chiang Mai	1,338	(14.83)	1,266	(5.38)
Hat Yai				
Phuket	28,538	20.25	37,634	31.87
Chiang Rai				
Total	1,332,278	7.62	1,482,279	11.26
	2018		**2019**	
Suvarnabhumi	1,454,881	4.32	1,293,415	(11.10)
Don Mueang	47,011	(3.49)	38,061	(19.04)
Chiang Mai	1,617	27.73	1,993	23.25
Hat Yai	14		131	835.71
Phuket	45,085	19.80	42,764	(5.15)
Chiang Rai			2	
Total	1,548,608	4.47	1,376,366	(11.12)

() = negative.
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

5.2.2. During the Pandemic Trade Assessment

The COVID-19 pandemic began in Thailand during March 2020. This section describes the changes in freight volumes both domestically and internationally during this time.

During the pandemic, the second quarter of 2020 saw the biggest drop in growth rates for export volumes, at –17.37%. The data show a slight increase for the next quarters until minimal growth in the beginning of 2021. By the second quarter of 2021, volume growth rates increased significantly, consistent with the recovery of global trade at the end of 2020 (Table 5.10).

Table 5.10: Volume Growth Rates of Merchandise Exports in Thailand, 2020–2021 (%)

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021
Growth rate, year-on-year	1.92	(16.13)	(7.34)	(1.43)	2.80	30.90
Growth rate (over previous period)	3.84	(17.37)	15.35	(0.41)	8.30	5.21
Volume Index (2005=100)	168.03	138.84	160.16	159.50	172.74	181.74
Volume Index, seasonally adjusted (2005=100)	163.12	137.97	150.96	155.40	166.93	179.79

() = negative.
Source: UNCTAD, Total Trade and Share Annual, UNCTADStats, https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=101 (accessed 5 October 2021).

Similarly, imports during the second quarter of 2020 saw the biggest drop in growth at –19.47%. The following quarters saw decreases in growth until minimal growth in the first quarter of 2021. The second quarter of 2021 saw a large increase.

Table 5.2: Volume Growth Rates of Merchandise Imports in Thailand, 2020–2021 (%)

Measure	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021
Growth rate, year-on-year	(0.97)	(19.47)	(17.31)	(3.64)	6.56	31.87
Growth rate (over previous period)	0.54	(17.796)	3.96	12.15	11.18	1.73
Volume Index (2005=100)	146.99	120.83	125.61	140.88	156.63	159.34
Volume Index, seasonally adjusted (2005=100)	143.94	119.69	123.99	134.31	153.14	158.14

() = negative.
Source: UNCTAD, Total Trade and Share Annual, UNCTADStats, https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=101 (accessed 5 October 2021).

Domestic freight data also show drops in freight volumes. In 2020, the arrival and departure volumes for water transport were less than in 2019, with the arrival volume reduced by 4.1% and departure volume reduced by 9.3% (Table 5.12). Laem Chabang and Bangkok remained the most important water nodes in Thailand.

Table 5.12: Domestic Freight Volume, Thailand, 2020

Mode	2020
Road ('000 tonnes)	450,800
Growth Rate (%)	(6.7)
Rail ('000 tonnes)	11,510
Growth Rate (%)	12.2
Water ('000 tonnes)	103,271
Growth Rate (%)	(16.4)
Inland Water ('000 tonnes)	49,248
Growth Rate (%)	(14.0)
Coastal ('000 tonnes)	54,023
Growth Rate (%)	(18.5)
Air ('000 tonnes)	32
Growth Rate (%)	(56.8)
Total ('000 tonnes)	**565,613**
Growth Rate (%)	**(8.3)**

() = negative.
Source: Government of Thailand, Ministry of Transport, MOT Data Portal, https://datagov.mot.go.th/group/ (accessed 10 December 2021).

Overall domestic trade volumes during the pandemic pummelled the economy. All forms of freight have been impacted negatively – except rail, as the government has emphasised railway development, which includes double-track railway development, the Single Rail Transfer Operator Project, and freight cost reduction (NESDC, 2021).

Although Chiang Saen Port is the third-most important port in Thailand, in 2020, its freight arrival numbers fell while departures remained high. This strong imbalance between arrivals and departures reflects not only limited freight flows from China but also the challenges related to Mekong River traffic.

Table 5.13: Freight by Port, Thailand, 2020 (tonnes)

Port	Arrival	Departure
Bangkok Port	12,946,515.00	8,288,169.00
Chiang Saen Port	4,106.93	86,361.48
Chiang Khong Port		1,132.24
Ranong Port	13,473.00	52,011.00
Laem Chabang Port	34,143,098.66	45,709,590.53
Total	**47,107,193.59**	**54,137,264.25**

Source: Government of Thailand, Ministry of Transport, Volume of Water Transport, MOT Data Catalog, https://datagov.mot.go.th/dataset/waterfleetfreight (accessed 17 July 2021).

Maritime transport also witnessed a drastic drop, with the number of container throughput similar to 2016 data (Table 5.14).

Table 5.14: Containers at Thai Ports, 2020 (TEU)

Port	
Bangkok	1,420,349
Ranong	2,374
Laem Chabang	7,552,646
Total	**8,975,369**

TEU = 20-foot equivalent unit.
Source: Thailand Ministry of Transport.

Air freight was also negatively impacted, dropping –59.48% in 2020 from the previous year (Table 5.15). The pandemic has been especially hard on air transport, as most air freight is combined with passenger transport. The cessation of passenger air transport in 2020 hindered domestic air freight, as dedicated freighters do not serve the domestic Thai market.

Table 5.15: Domestic Freight and Mail in Thailand, 2020

Airport	Tonnes	Growth Rate (%)
Suvarnabhumi	9,340	(69.75)
Don Mueang	4,430	(19.82)
Chiang Mai	4,552	(55.88)
Hat Yai	4,677	(38.97)
Phuket	3,805	(67.20)
Chiang Rai	963	(62.01)
Total	**27,767**	**(59.48)**

() = negative.
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

International freight volumes during the pandemic also suffered, especially air freight, with a growth rate of –35.1% (Table 5.16). Rail freight took the lightest hit, with a –12.4% reduction.

Table 5.16: International Freight Volume, Thailand, 2020

Mode	Statistic
Road (tonnes)	34,594
Growth Rate (%)	(5.4)
Rail (tonnes)	312
Growth Rate (%)	(2.4)
Maritime (tonnes)	264,197
Growth Rate (%)	(9.1)
Air (tonnes)	511
Growth Rate (%)	(35.1)
Total (tonnes)	**299,614**
Growth Rate (%)	**(8.8)**

() = negative.
Source: NESDC (2021).

International air freight was also impacted compared to previous years. All airports were hit severely, with a –33.57% reduction in international air freight from previous years (Table 5.17). Chiang Rai Airport did not have a single international flight in 2020.

Table 5.17: International Freight and Mail, 2020

Airport	Tonnes	Growth Rate (%)
Suvarnabhumi	895,023	(30.80)
Don Mueang	10,799	(71.63)
Chiang Mai	363	(81.63)
Hat Yai	14	(89.31)
Phuket	8,099	(81.05)
Chiang Rai	0	(100.00)
Total	**914,298**	**(33.57)**

() = negative.
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

5.2.3. Trade Policy Responses and Lessons Learned

At the end of 2019, the government identified three goals to help combat the COVID-19 pandemic: (i) expedite the use of infrastructure, and develop supporting factors to enhance competitiveness; (ii) promote the transformation of business operations into business-to-consumer (B2C) via digitalisation; and (iii) support the Thai Logistics Service Network, and promote regional partnerships (NESDC, 2020).

The first issue focusses on utilising rail as a national transport backbone. This includes developing road networks to connect agriculture and industrial sources strategically. Furthermore, logistics-related activities need be transferred to online platforms for transport and warehouse management. The second goal includes upgrading warehouse management, as well as improving services that meet door-to-door delivery demand more efficiently. The last goal seeks to support Thai logistics service providers with enhanced networking by promoting foreign investments as well as developing international logistics contacts. Additionally, this will support exporters and importers with necessary compliance information.

5.3. Transport Sector

This section focusses on the movement of people before and during the pandemic. Although the demand for freight fell during the pandemic, it still managed to move across borders. The situation is more complicated for passenger transport due to lockdowns and border closures.

5.3.1. Pre-Pandemic Transport Sector

Until 2018, airports in Thailand enjoyed continued growth on a yearly basis. The first decline came in 2019, with an overall decrease of 5.7% (Table 5.18 and Figure 5.5).

**Table 5.18: Domestic Aircraft Movements, Thailand, 2016–2019**

Airport	Number	Change (%)	Number	Change (%)
		2016		2017
Suvarnabhumi	77,642	11.74	86,230	11.06
Don Mueang	166,897	5.10	168,494	0.96
Chiang Mai	51,939	8.87	53,412	2.84
Hat Yai	26,151	14.91	27,873	6.58
Phuket	48,883	19.92	52,928	8.27
Chiang Rai	14,092	9.51	16,657	18.20
Total	385,604	9.43	405,594	5.18
		2018		2019
Suvarnabhumi	87,597	1.59	85,082	(2.87)
Don Mueang	174,806	3.75	163,819	(6.29)
Chiang Mai	56,520	5.82	54,063	(4.35)
Hat Yai	25,889	(7.12)	23,898	(7.69)
Phuket	54,514	3.00	50,409	(7.53)
Chiang Rai	18,152	8.98	17,381	(4.25)
Total	417,478	4.47	394,652	(5.47)

() = negative.
Note: Although data are for the year 2019, the actual reduction in flights occurred during the last quarter when the first signs of the COVID-19 were detected in China.
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

Figure 5.5: Domestic Aircraft Movements, Thailand, 2016–2019 (total flights)
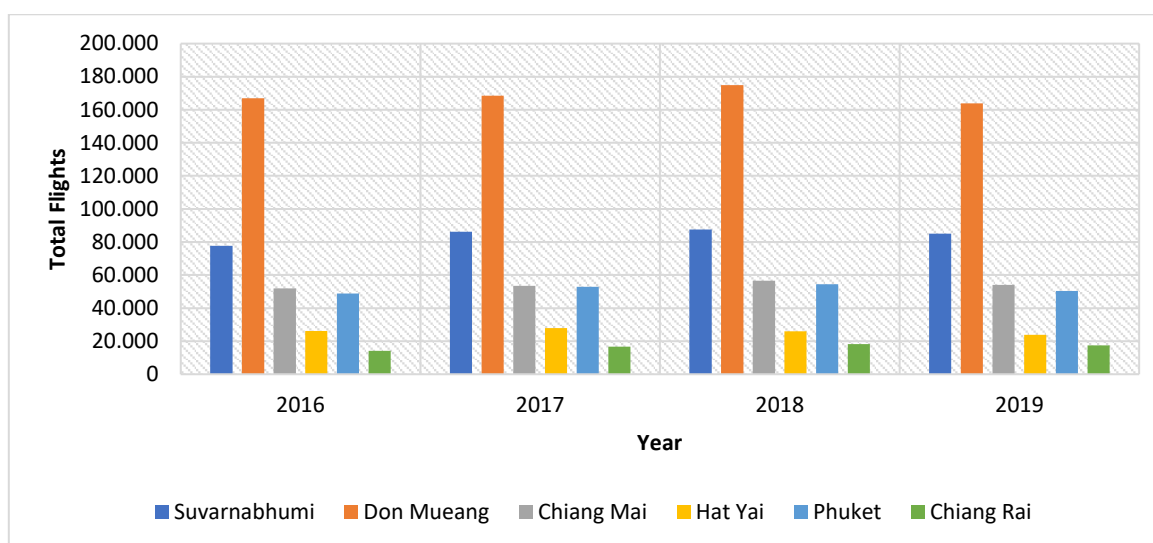
Similar to aircraft movement, passenger numbers increased continuously from 2016 to 2018 but decreased in 2019 (Table 5.19 and Figure 5.6) . However, Suvarnabhumi Airport still had modest growth in 2019.

Table 5.19: Domestic Air Passenger Volume, Thailand, 2016–2017

Airport	Passengers	Change (%)	Passengers	Change (%)
	2016		**2017**	
Suvarnabhumi	9,842,502	13.35	11,337,559	15.19
Don Mueang	23,323,457	10.36	23,942,371	2.65
Chiang Mai	7,351,457	13.83	7,931,461	7.89
Hat Yai	3,753,139	10.19	4,083,465	8.80
Phuket	6,997,879	18.52	7,658,651	9.44
Chiang Rai	2,029,215	18.06	2,383,583	17.46
Total	**53,297,423**	**12.67**	**57,337,090**	**7.58**
	2018		**2019**	
Suvarnabhumi	11,871,901	4.71	11,970,155	0.83
Don Mueang	24,779,256	3.5	23,456,123	(5.34)
Chiang Mai	8,315,218	4.84	8,102,183	(2.56)
Hat Yai	3,903,344	(4.41)	3,625,593	(7.12)
Phuket	7,817,894	2.08	7,452,262	(4.68)
Chiang Rai	2,638,485	10.69	2,586,462	(1.97)
Total	**59,326,098**	**3.47**	**57,192,778**	**(3.60)**

() = negative.

Figure 5.6: Domestic Passenger Volumes, Thailand, 2016–2019
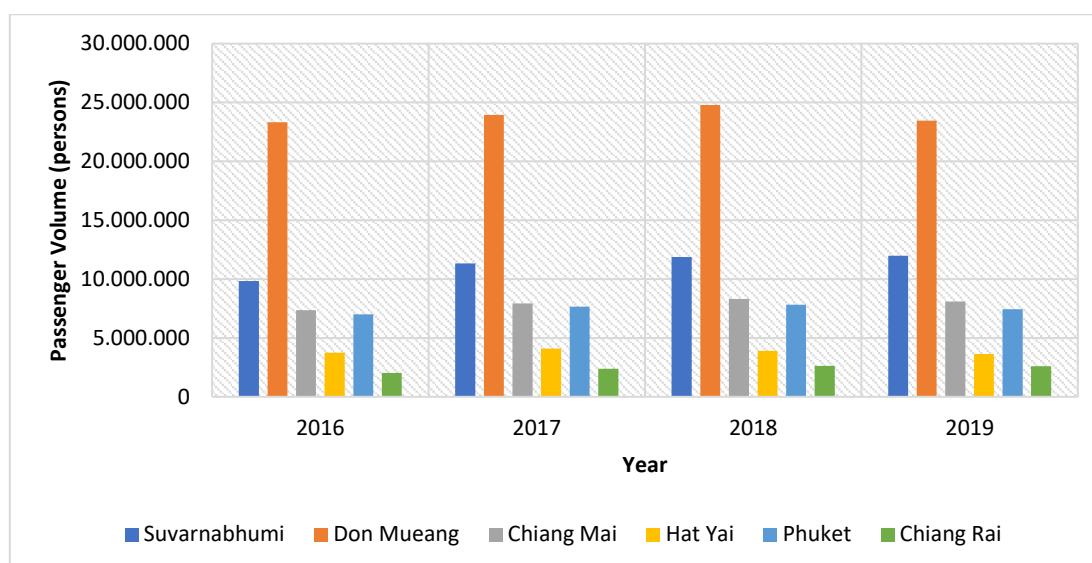

Source: Airport Authority of Thailand.

From 2016 to 2019, the number of passengers transported by rail increased continuously (Table 5.20 and Figure 5.7). This was particularly true for Bangkok's urban rail system.

Table 5.20: Rail Passengers, Thailand, 2016–2019 (persons)

	2016	2017	2018	2019
First Class	107,313	134,735	133,333	139,841
Second Class	3,329,322	3,922,460	4,108,680	4,255,971
Third Class	26,420,646	27,498,562	28,920,868	29,145,792
Mae Klong	3,773,324	3,877,619	3,830,686	3,921,691
Train Total	**33,630,605**	**35,433,376**	**36,993,567**	**37,463,295**
Airport Rail Link	21,128,530	22,509,560	23,624,285	24,624,285
MRT	103,225,663	119,116,926	131,355,923	128,864,900
- Blue	100,151,274	107,489,936	113,711,335	114,269,061
- Purple	3,074,389	11,626,990	17,644,588	14,595,839
BTS	237,047,435	241,067,194	240,139,471	247,600,000
Electric Train Total	**361,401,628**	**382,693,680**	**395,119,679**	**401,089,185**

Source: Thailand Ministry of Transport.

Figure 5.7: Total Railway Passengers, Thailand, 2016–2019
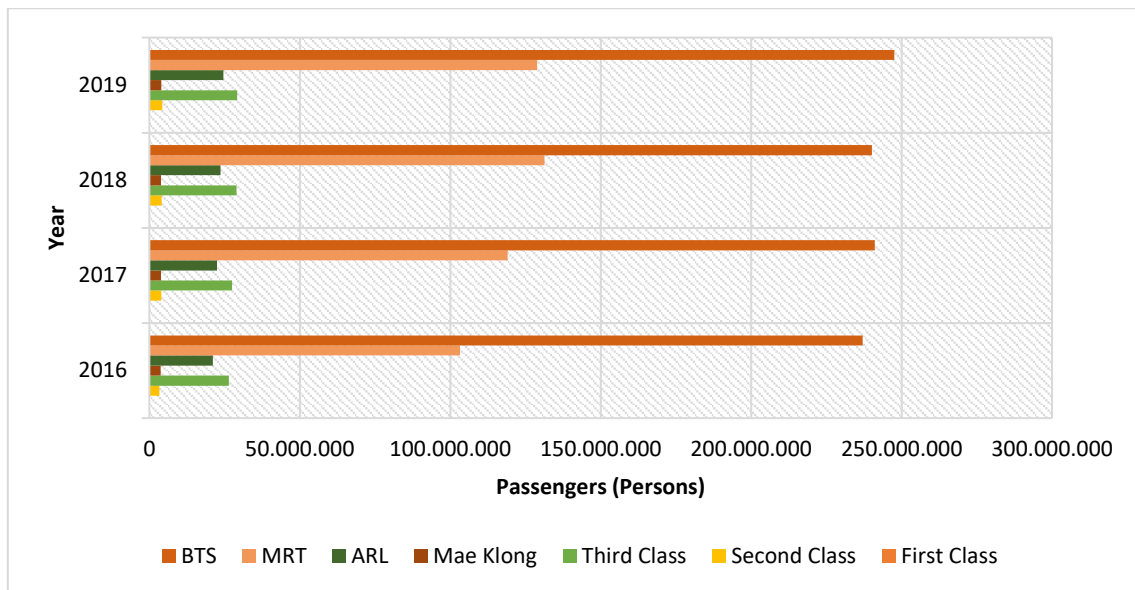
ARL = Airport Rail Link.
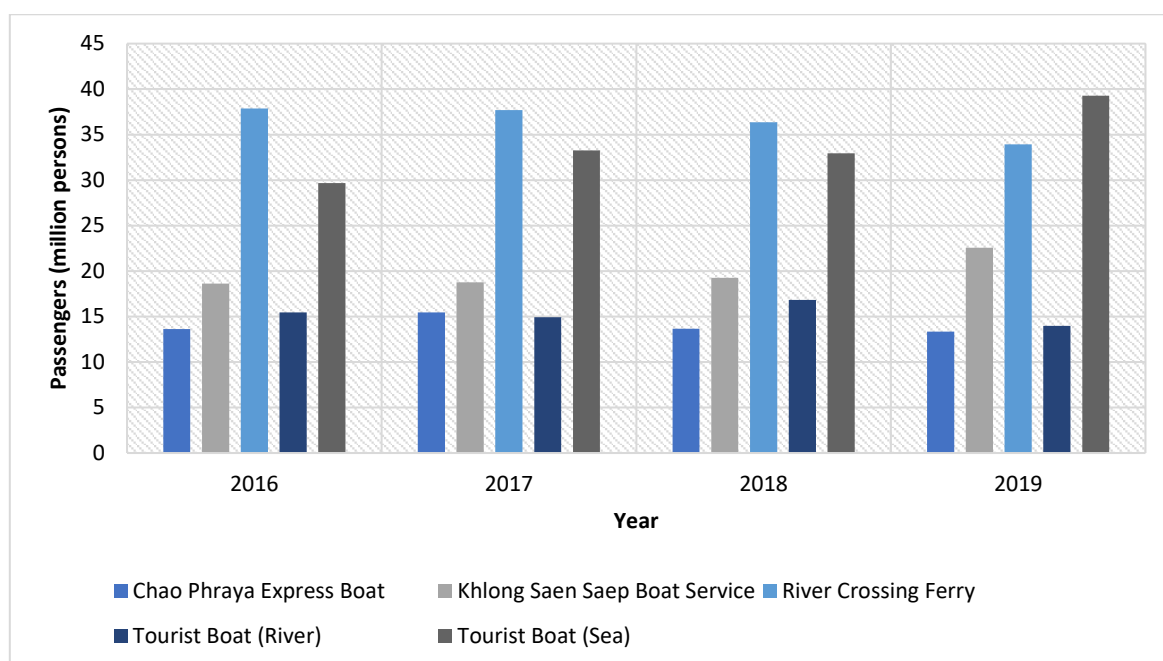Source: Thailand Ministry of Transport.

Water transport numbers remained stagnant, although there was a slight increase overall (Table 5.21 and Figure 5.8). The Khlong Saen Saep Boat Service and Tourist Boat (Sea) were the only services with increases, while the other services decreased by the end of 2019.

Table 5.21: Water Passenger Traffic, Thailand, 2016–2019 (persons)

Service Type	2016	2017	2018	2019
Chao Phraya Express Boat	13.63	15.45	13.67	13.33
Khlong Saen Saep Boat Service	18.63	18.78	19.25	22.57
River Crossing Ferry	37.88	37.68	36.35	33.93
Tourist Boat (River)	15.46	14.94	16.84	13.99
Tourist Boat (Sea)	29.68	33.25	32.95	39.29
Total	**115.28**	**120.09**	**119.06**	**123.11**

Source: Thailand Ministry of Transport.

Figure 5.8: Water Passenger Traffic, Thailand, 2016–2019

Source: Thailand Ministry of Transport.

In terms of international passenger transport, 2016 to 2019 showed continuous growth except for Hat Yai Airport in the south of the country (Table 5.22 and Figure 5.9). This is because some international airlines discontinued the connection, especially those from Malaysia. Suvarnabhumi Airport was the main international airport followed by Don Muang and Phuket international airports.

Table 5.22: International Aircraft Movements, Thailand, 2016–2019

Airport	Flights	Change (%)	Flights	Change (%)
	2016		**2017**	
Suvarnabhumi	258,714	4.50	264,279	2.15
Don Mueang	77,399	18.58	88,266	14.04
Chiang Mai	17,263	6.98	18,582	7.64
Hat Yai	1,946	5.19	2,194	12.74
Phuket	48,930	11.21	53,165	8.66
Chiang Rai	498	(6.74)	1,004	101.61
Total	**404,750**	**7.83**	**427,490**	**5.62**
	2018		**2019**	
Suvarnabhumi	281,879	6.66	294,969	4.64
Don Muang	97,555	10.52	108,544	11.26
Chiang Mai	21,690	16.73	25,441	17.29

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Hat Yai	3,314	51.05	2,001	(39.62)
Phuket	63,766	19.94	65,167	2.20
Chiang Rai	1,920	91.24	2,748	43.13
Total	**470,124**	**9.97**	**498,870**	**6.11**

() = negative.

Figure 5.9: International Aircraft Movements, Thailand, 2016–2019
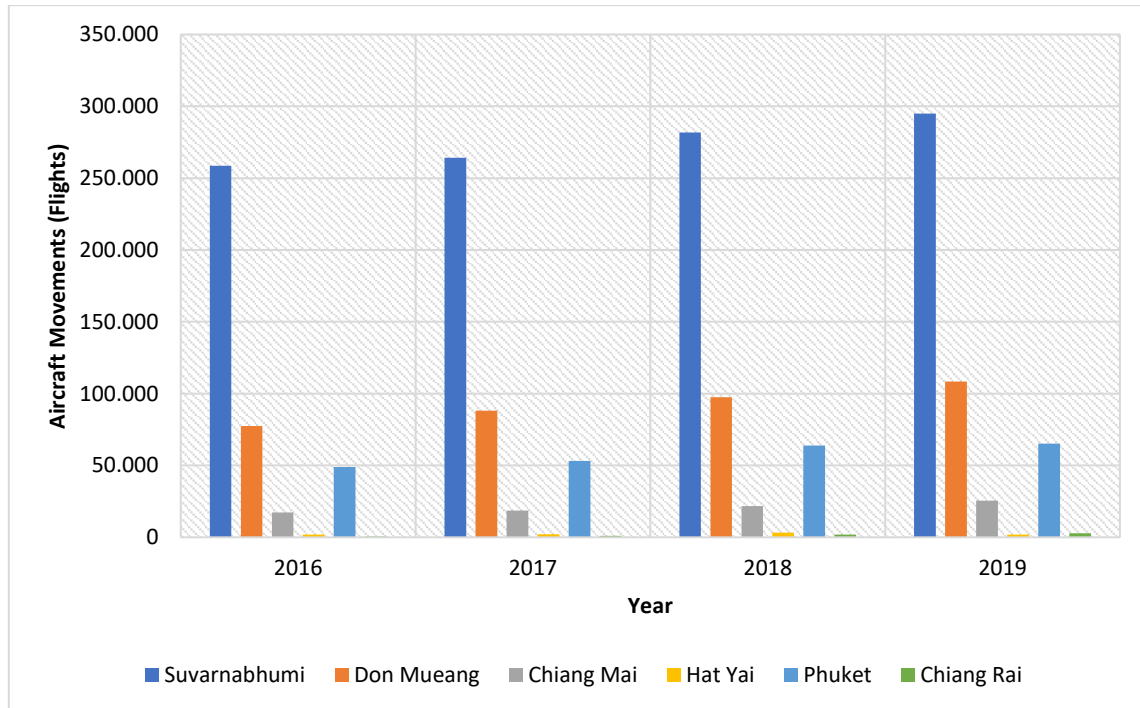
International passenger transport grew from 2016 to 2019. The drop in passenger numbers for 2019 in Hat Yai again reflected that fact that some airlines stopped service there (Table 5.23 and Figure 5.9). In 2019, apart from Hat Yai, Phuket International Airport saw a slight drop in passenger traffic.

Table 5.23: International Passenger Volume, Thailand, 2016–2019

Airport	Passengers	Change (%)	Passengers	Change (%)
	2016		**2017**	
Suvarnabhumi	46,050,161	4.14	49,522,799	7.54
Don Mueang	11,880,300	29.55	14,357,386	20.85
Chiang Mai	2,095,089	9.81	2,298,819	9.72
Hat Yai	251,526	7.48	283,899	12.87
Phuket	8,109,306	16.59	9,196,527	13.41
Chiang Rai	30,985	15.98	119,792	286.61
Total	**68,417,367**	**9.44**	**75,779,222**	**10.76**
	2018		**2019**	
Suvarnabhumi	51,507,176	4.01	53,455,724	3.23
Don Mueang	15,978,892	11.29	17,857,316	1.36
Chiang Mai	2,674,651	16.35	3,231,365	3.13
Hat Yai	352,763	24.26	272,499	(8.41)
Phuket	10,403,631	13.13	10,666,178	(0.57)
Chiang Rai	228,804	91	342,271	2.14
Total	**81,145,917**	**7.08**	**85,825,353**	**1.81**

() = negative.
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

Figure 5.10: International Passenger Volume, Thailand, 2016–2019
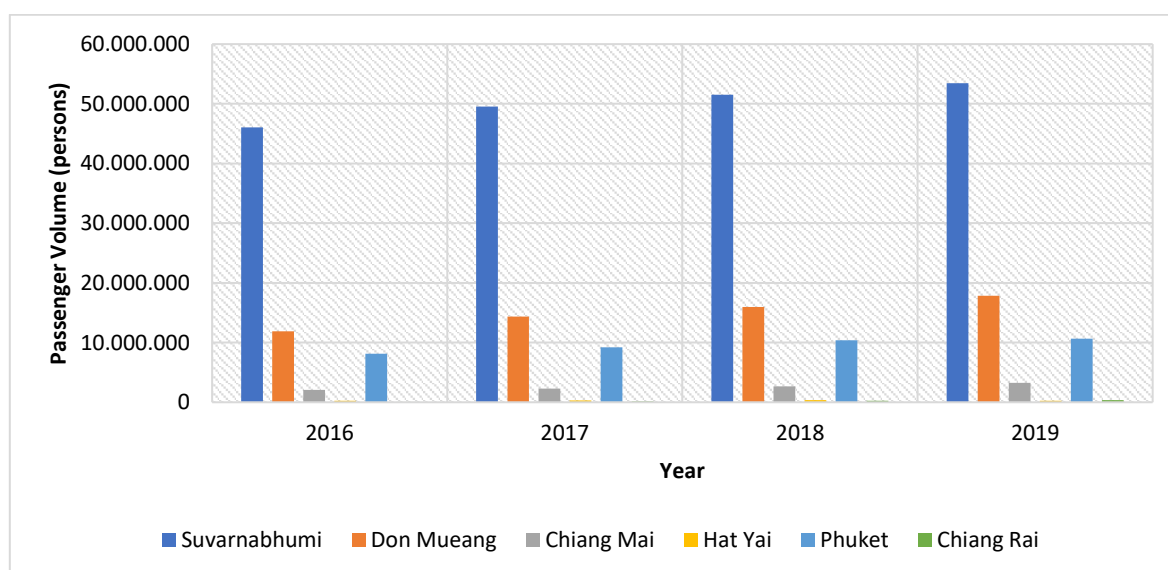
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

International flights witnessed an increase, while the growth rate of flights went down (Figure 5.11). The highest number of passengers was in 2019, with 85,825,353, compared to 2016 with 68,417,367 total passengers.

Figure 5.11: Commercial Aircraft Movements, Thailand, 2011–2019
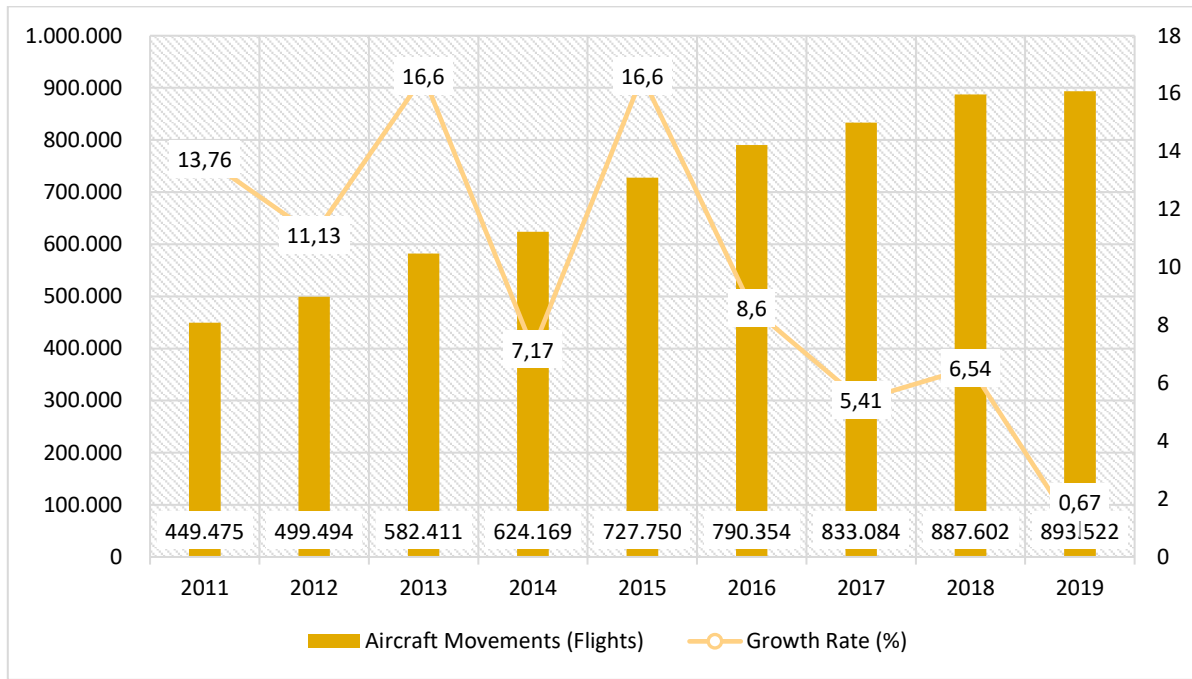
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

5.3.2.   During the Pandemic Transport Assessment

With its lockdowns and restrictions on the movement of people, 2020 deeply affected aircraft and passenger movement in Thailand (Tables 5.24 and 5.25). There was a drastic drop in domestic air movements, with Phuket suffering the most. The overall decrease in passenger movement based on a year-on-year basis was –45.54%.

Table 5.24: Domestic Aircraft Movements, Thailand, 2020

Airport	Flights	Change (%)
Suvarnabhumi	59,898	(29.60)
Don Mueang	112,272	(31.47)
Chiang Mai	35,058	(35.15)
Hat Yai	18,387	(23.06)
Phuket	25,507	(49.40)
Chiang Rai	11,725	(32.54)
Total	262,847	(33.40)

() = negative.
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

Table 5.25: Domestic Air Passenger Volume, 2020

Airport	Passengers	Change (%)
Suvarnabhumi	6,835,047	(42.89)
Don Mueang	13,039,436	(44.41)
Chiang Mai	4,365,047	(46.13)
Hat Yai	2,330,416	(35.72)
Phuket	3,097,360	(58.44)
Chiang Rai	1,476,910	(42.90)
Total	31,144,216	(45.54)

() = negative.
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

Rail transport also saw a drastic decrease of about one-half for all types of rail services compared to the last 2 years (Table 5.26). The biggest decrease can be seen in the BTS data, with about 100,000,000 fewer passengers. There was an increase, however, in the MRT Purple Line in 2020 compared to previous years, as this line was not open in 2019.

Table 5.26: Railway Passengers, Thailand, 2020–2021

	2020	2021
First Class	86,245	
Second Class	2,296,221	
Third Class	17,973,264	
Mae Klong	2,527,309	
Trains Total	**22,883,039**	
Airport Rail Link	14,895,205	7,147,761
MRT	112,435,170	51,068,125
- Blue	95,598,532	44,544,144
- Purple	16,836,638	6,523,981
BTS	146,800,000	97,369,831
Red Line Train	-	758,178
Electric Trains	**274,130,375**	**156,343,895**

Note: To 7 December 2021.
Source: Government of Thailand, Ministry of Transport, Rail, MOT Data Catalog, https://datagov.mot.go.th/group/rail (accessed 12 August 2021).

Table 5.27: Water Passenger Traffic, Thailand, 2020–2021 ('000 passengers)

Service Type	2020	2021
Chao Phraya Express Boat	4.50	1.58
Khlong Saen Saep Boat Service	5.50	2.13
Chao Phraya Ferry	4.94	4.46
Chao Phraya Electric Boat	0	0.05
Regional Ships	32.82	15.78
Total	**47.76**	**24.00**

Source: Government of Thailand, Ministry of Transport, Volume of Passenger Water Transport in the Country, MOT Data Catalog, https://datagov.mot.go.th/dataset/passenger-water-transport-in-country-classified-by-service-usage (accessed 30 January 2023).

The decrease was even higher for international aircraft and passenger movements (Tables 5.28 and 5.29 and Figure 5.12). There was a decrease of over 73% for 2020, with Suvarnabhumi Airport suffering the least.

Table 5.28: International Aircraft Movements, Thailand, 2020

Airport	Flights	Change (%)
Suvarnabhumi	92,717	(68.57)
Don Mueang	20,998	(80.65)
Chiang Mai	4,397	(80.72)
Hat Yai	441	(79.46)
Phuket	13,343	(79.52)
Chiang Rai	401	(85.41)
Total	132,267	(73.49)

() = negative.
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

Table 5.29: International Passenger Volume, Thailand, 2020

Airport	Passengers	Change (%)
Suvarnabhumi	9,871,186	(81.53)
Don Mueang	2,726,407	(84.73)
Chiang Mai	486,428	(84.95)
Hat Yai	40,777	(85.04)
Phuket	2,332,349	(78.13)
Chiang Rai	36,384	(89.37)
Total	15,493,531	(81.95)

() = negative.
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

Figure 5.12: Commercial Aircraft Movements, Thailand, 2011–2020
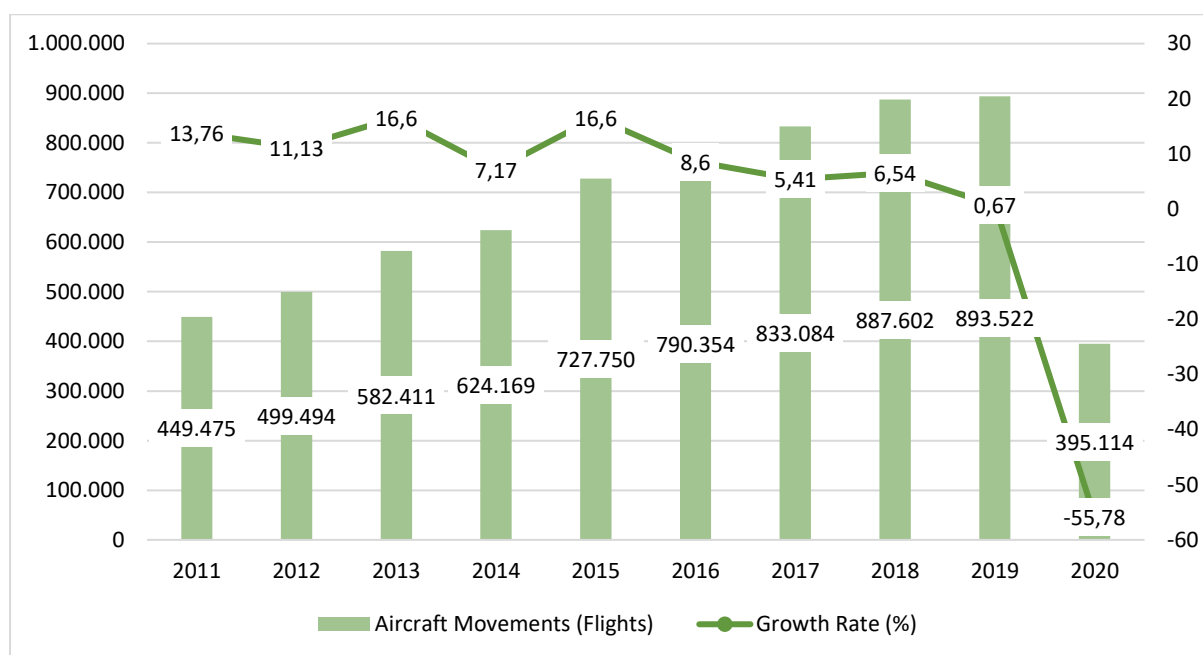
Source: Airports of Thailand, About BOT, https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/ (accessed 8 July 2021).

5.3.3. Transport Policy Responses and Lessons Learned

As of 1 September 2021, some COVID-19 restrictions in Thailand were relaxed, in particular interprovincial travel (Tourism Authority of Thailand, 2021). Below are the details from domestic providers regarding how each are resuming their operations:

(i) Thai Airways, the national carrier under liquidation, has announced that its domestic executive lounges at Suvarnabhumi Airport, Phuket International Airport, and Chiang Mai International Airport are back in service as of 1 September 2021. This means that the airline is slowly returning to offering domestic services.

(ii) Bangkok Airways is offering sealed route flights daily for international transit/transfer passengers under the Samui Plus programme connecting from Suvarnabhumi to Samui International Airport.

(iii) Nok Air is back in service at Don Mueang International Airport from 1 September 2021 to Buri Ram, Chiang Mai, Chiang Rai, Chumphon, Hat Yai, Lampang, Loei, Mae Sot, Nakhon Si Thammarat, Nan, Phitsanulok, Phuket, Ranong, Sakon Nakhon, Surat Thani, Ubon Ratchathani, and Udon Thani.

(iv) AirAsia is back in service at Don Mueang International Airport from 3 September 2021 to Chiang Mai, Chiang Rai, Hat Yai, Khon Kaen, Nakhon Phanom, Nakhon Si Thammarat, Narathiwat, Phuket, Roi Et, Ubon Ratchathani, and Udon Thani.

(v) Thai Lion Air is back in service at Don Mueang International Airport from 1 September 2021.

(vi) Thai Smile Airways has announced resumption of some domestic flights from 1 to 30

September 2021 to Chiang Mai, Chiang Rai, Hat Yai, Khon Kaen, Krabi, Nakhon Si Thammarat, Narathiwat, Phuket, Surat Thani, Ubon Ratchathani, and Udon Thani.

(vii) Thai VietJet Air resumed its entire domestic flight network at Suvarnabhumi Airport from 1 September 2021, flying to Chiang Mai, Chiang Rai, Hat Yai, Khon Kaen, Krabi, Nakhon Si Thammarat, Phuket, Surat Thani, Ubon Ratchathani, and Udon Thani. The airline has also resumed its services at Don Mueang International Airport from 1 September 2021.

All passengers are asked to travel safely; wear masks during their flights; wash their hands with alcohol spray or gel; and maintain social distancing. They also must show proof of vaccination to be allowed to board.

Airlines have been asking for support from government, but there has been no formal policy response. This shows the resiliency of the Thai private sector, as it cannot rely on government measures. These operators do hope, however, that the government does not issue new restrictions if COVID-19 cases increase again.
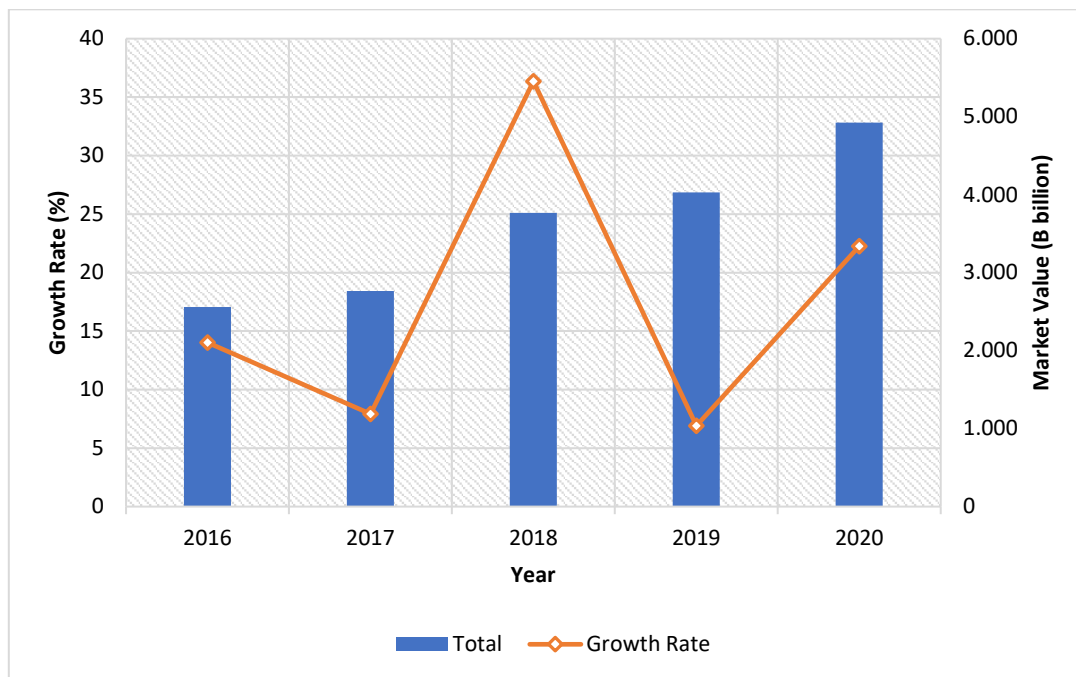
5.4. E-Commerce

Before the pandemic, Thai retailers were adjusting to the digital age. Many retailers created online channels for their customers while using data analytics to better understand customer needs (Government of the US, ITA, 2022).

E-commerce platforms in Thailand are divided into three categories: business-to-business (B2B) transactions, B2C transactions, and business-to-government (B2G) transactions. Amongst the three groups, B2B transactions are the largest and account for 55%, followed by B2C transactions (29%), and B2G transactions (16%). Indeed, B2B e-commerce in Thailand is growing rapidly due to internet development and mobile transformation. Sectors using e-commerce platforms to increase their productivity include the food and service sector with 31%, followed by manufacturing at 16%, and retail and wholesale at 15% (Government of the US, ITA, 2022). Demand for e-commerce services is coming not only from Bangkok but also from other provinces such as Nonthaburi and Chonburi.

Thailand's online retail commerce is driven by several factors, including increased smartphone penetration and intense competition amongst e-commerce operators. The PromptPay service, a national e-payment scheme, has been a key driver in stimulating e-commerce activities.

5.4.1. Pre-Pandemic E-Commerce Assessment

Figure 5.13: E-Commerce Market Value（B billion）

Source: Statista, E-commerce Market Value in Thailand from 2017 to 2020 with a Forecast for 2021, E-Commerce, https://www.statista.com/statistics/770050/e-commerce-market-value-thailand/ (accessed 8 July 2021).

Pre-pandemic data show that online digital marketing grew 70% since 2017 (Leesa-Nguansuk, 2019). The following year, the value of Thai e-commerce grew by 14% and was expected to hit a growth rate of 20% in 2019; the value of Thai e-commerce grew to B3.2 trillion in 2019 (Leesa-Nguansuk, 2019). The market is expected to develop further, as Thailand had over 45.0 million internet users in 2018, and 124.8 million mobile subscribers, 44.0 million people using LINE, and 52 million Facebook users in 2019 (Languepin, 2019). Facebook topped social commerce with a market share of 42%, trailed by LINE at 34%, Instagram at 19%, and Twitter at 5% (Leesa-Nguansuk, 2020).

5.4.2. During the Pandemic E-Commerce Assessment

The COVID-19 pandemic increased Thailand's desire to move towards a cashless society; more retailers turned to online payment services. Online payments had often been used in shopping malls and restaurants but could be seen everywhere; even street carts offered an online payment services or a QR code for payment. Additionally, the Thailand 4.0 programme, which supports the digitalisation of business and payment systems, will have a huge impact. The use of online banking is encouraged through the government's payment of aid to people through another e-payment system, Pao Tang.

The population often uses social media and mobile apps to research new products before making purchases. Many purchase directly through social media, and 83% of mobile users use shopping apps. Travel, electronics and physical media, food, and personal care remain the strongest online shopping

categories. The online shopping sector had a total value of approximately $18.97 billion in 2021 (Government of the US, ITA, 2022).

From the beginning of 2020, social distancing, lockdowns, and other measures led consumers to change their behaviours to online shopping, social media use, internet for teleconferencing, and streaming of videos and films. These trends resulted in spikes in online shopping businesses, especially in B2C sales and B2B e-commerce. Online sales were expected to hit $49 billion in 2020, up from $33 billion in 2017 (Minh, 2023). The driving factors behind this growth were increased internet and mobile phone use, as well as improved logistics and e-payment systems, which heightened convenience and consumer confidence to shop online.

Thailand's growing e-commerce market is focussed on mobile applications, with an estimated mobile commerce market of $15.8 billion in 2020. The mobile commerce market is expecting a compound annual growth rate of 12% to $25 billion by 2023, driven by rising smartphone penetration (around 40%) and an established preference for mobile over desktop shopping.[14]

Thailand's e-commerce data during the pandemic jumped to B220 billion in 2020, accounting for 2%–5% of total retail (Leesa-Nguansuk, 2020). Compared to pre-pandemic data, e-commerce use shot up 40% after the 2020 lockdown (Srivorakul, 2021). For Thai households, shopping online increased 58% during the pandemic, which also accelerated the shift to e-commerce (*The Nation Thailand*, 2021). The food category grew by 74% from January to December 2020, compared to 60% in non-food categories (*The Nation Thailand*, 2021).

5.4.3. E-Commerce Policy Responses and Lessons Learned

The government's focus on Thailand 4.0 includes allocating a budget to develop a broadband network for all villages across the country (Royal Thai Embassy to the United States, 2018). This nationwide network will help bridge the digital divide and promote modern economic development through e-commerce. The government also has a vision of creating the next generation of digital apps to accommodate and to promote online activities, including e-marketplaces, e-payments, and e-government. The goal is for villagers to start conducing e-commerce businesses for local products and services.

The growth of e-commerce has also boosted the use of e-payments because these make purchases of goods faster and more convenient. Indeed, Thailand's online and mobile banking market could reach maturity within 6 years, largely driven by the national e-payment system and the significant growth in mobile broadband penetration. By 2021, over 85% of the population will be online via mobile phone, an increase of 31% from 2018 (Kemp, 2021).

In recent years, the Electronic Transactions Development Agency has been creating a strategic plan, focussing on developing digital infrastructure, upgrading e-transaction rules, improving e-transaction system standards, and promoting digital knowledge amongst the public. A key target of this proposed

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[14] JP Morgan, 2020 E-commerce Payments Trends Report: Thailand, E-Commerce Payments Trends, https://www.jpmorgan.com/europe/merchant-services/insights/reports/thailand-2020

plan is increasing people's confidence in internet usage by 4% per year, reaching 85% by 2022 (Tortermvasana, 2021).

Over the past few years, many courier service companies started launching their e-commerce platforms in Thailand, bringing domestic end-to-end delivery to the market. Consequently, delivery costs for e-commerce products have sharply declined due to the fierce competition amongst these providers.

The Thai mobile commerce market is already the dominant e-commerce sales channel in the country, used for 52% of all online shopping transactions, estimated at around $13.6 billion. This makes Thailand one of the regional forerunners for mobile commerce. Indeed, smartphone users are keen e-shoppers, with 71% shopping online at least twice per month. Some 90% of smartphone users plan to shop online in the future. Apps are the most-used method to shop online, comprising 65% of all transactions – offering in-app purchasing will therefore be crucial for merchants to reach most Thailand's online consumers.[15]

5.5   Policy Recommendations

Thailand was already suffering from reduced export volumes due to the country's lower competitiveness even before the pandemic. Economic growth in Thailand contracted by –6.1% in 2020 due to a decline in external demand, affecting trade and tourism, disrupting supply chains, and weakening domestic consumption. In 2020, after suffering its worst contraction since the Asian financial crisis, the economy expanded by 2% in the first half of 2021 amidst the third wave of the COVID-19 pandemic and is not expected to recover to pre-COVID-19 levels until 2023.[16]

5.5.1.   Trade Policy Recommendations

Reductions in trade costs matter, because they improve access to markets (Berg et al., 2017). When infrastructure is in place, operations may require funding or be hindered by inefficient management, non-competitive market structures of service providers, and/or excessive regulations, which further drive up user costs. As these non-physical costs represent a significant share of total transport costs, they should be eradicated.

During the pandemic, Thailand suffered from a lack of access to containers, which made exports more challenging. Exporters not only were faced with container shortages but were also subject to higher freight costs. To remedy this situation, Thailand should develop its own shipping fleet. It should not belong to the government but to the private sector, with the government providing incentives.

The overall objective is to reduce transport costs for Thai exporters and importers. A reduction in transport costs can stimulate the volume of trade, reconnect existing markets, open new markets,

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[15] Ibid.

[16] World Bank, The World Bank in Thailand, https://www.worldbank.org/en/country/thailand/overview#1 (accessed 2 January 2022).

induce new industries to form, and thereby influence the pattern of trade. Incentives can include financial support, such as additional credits of 20%–30% if exporters and importers use Thai vessels; a Thai shipowners' fund with a credit term of at least 10 years; and/or tax incentives such as exemption of import duties and long-term tax holidays.

It is also important for the government to pursue an active anti-trust policy in the maritime sector. In 1999, Thailand enacted the Prices of Goods and Services Act B.E. 2542 and the Trade Competition Act B.E. 2542 with a view to ensuring free and fair competition in trade in goods and services. In addition, Section 27 of the Business Competition Act defines the types of anti-competitive conduct that are prohibited. The activities of maritime conferences, consortia, and stabilisation agreements – especially with respect to joint pricing and monopolisation – appear to come under the aegis of the act. However, under Section 35(2), enterprises must be declared as 'controlled businesses' before any action can be taken. The maritime sector has not yet been declared a controlled business, so this action should be done as soon as possible.

Within ASEAN, the proposal of a regional resilience concept means that AMS governments are expected to 'promote domestic stability on a comprehensive basis so that the resultant secure states can withstand internal and external stresses and thus contribute to the attainment of regional resilience in Southeast Asia' (Bradford and Herrmann, 2021). To achieve regional resilience and re-connect intra-ASEAN trade, it is important for AMS to agree on a coordinating platform whereby ASEAN shippers and consignees, ASEAN shipowners, ASEAN freight forwarder associations, and the ASEAN trucking federation work together to enable the development of dedicated ASEAN trade lanes. These dedicated trade lanes, with the support of ASEAN's trade and transport facilitation committees, can become best-practice trade corridors where all non-tariffs barriers are eliminated and shipments are expedited.

5.5.2. Transport Policy Recommendations

Passenger mobility fell significantly because of the pandemic. AMS that rely on tourism are struggling in their economic recoveries and need to consider how to balance economic reality with health protocols. Currently, Thailand's domestic passenger policy is based on the enforcement of social-distancing measures and the full vaccination of passengers travelling within the country. However, the return to pre-pandemic levels of travel may be challenging even if a large portion of the population has been vaccinated. Depending on the pandemic, airlines may require extra COVID-19 testing before travel can take place. These measures could fluctuate depending on the pandemic situation. The current main policy is to create a national bubble, but this is unrealistic; vaccinating the whole population is the only way to establish herd immunity.

The development of dedicated travel lanes needs to be enhanced in ASEAN. AMS need to negotiate bilateral travel lanes for vaccinated citizens to enable travel. People-to-people connectivity is a key pillar for ASEAN, so these lanes should be established as quickly as possible amongst all ASEAN capitals. The opening of these travel lanes will depend on the pandemic situation in each AMS, but at least 90 vaccinated travel lanes could be created that would reconnect ASEAN.

5.5.3. E-Commerce Policy Recommendations

The government would like to increase revenues from e-commerce to roughly $165 billion next year, helping support the economic recovery from the pandemic (*Bangkok Post*, 2021). In the first phase of the plan, the government aims to increase the e-commerce revenues of SMEs by at least 5% per year and outbound cross-border e-commerce revenue by at least 5% per year during that timeframe (Royal Thai Embassy to the United States, 2021). To be successful, the government must:

(i) **Reallocate the country's transport budgets.** The government must shift its spending away from roads towards infrastructure that primarily favours public transport, walking, and cycling. Supporting more compact and connected cities does not necessarily require larger transport budgets but more strategic use of existing resources (Heeckt and Colenbrander, 2019).

(ii) **Integrate urban and transport plans.** National land-use, housing, and transport policies have historically been developed by separate ministries. This has led to cities where residential areas are poorly connected to jobs, schools, hospitals, and parks, so people end up driving long distances every day. Thai cities thus should create integrated urban mobility plans.

(iii) **Introduce road pricing.** Charging drivers to use a road can help reduce congestion, distribute the social costs of driving more fairly, and improve air quality. The price can be set to reflect the real cost; for example, a higher congestion charge can be imposed on heavier and more polluting vehicles. The revenues generated from road pricing can be then earmarked for reinvestment in public transport, so that road pricing not only deters cars but also helps make alternative modes of travel more affordable, efficient, and pleasant.

(iv) **Establish metropolitan transport authorities.** Many people who live in cities commute from a much wider region. It therefore makes sense for Thailand to establish a transport authority with responsibility for multiple transport modes across the greater Bangkok metropolitan region. The transport authority should have sufficient responsibility for spatial planning, budgets, and operations to help shape transport. A strong mandate from the government is essential, as poor coordination across different jurisdictions and service providers can otherwise undermine the effectiveness of the new authority.

In this context, it is important for policymakers in ASEAN to find ways to become more engaged in cross-border e-commerce, especially for the promotion of exports. It is thus essential to collaborate with large cross-border e-commerce platforms and to build partnerships between governments and the private sector (Grant, Banomyong, Gibson, 2021). Due to network effects, large cross-border e-commerce platforms can help link regional and international markets. It is also suggested that ASEAN pays attention to the supervision of payments, transactions, and goods in the early stages of development and to begin conducting comprehensive supervision over all aspects of the cross-border e-commerce supply chain through the development of a regional regulatory system.

International cooperation in cross-border e-commerce should also be strengthened. AMS should actively promote cross-border e-commerce rules and treaties. The establishment of a cross-border e-

commerce regional cooperation mechanism is required to create the necessary conditions for domestic enterprises in AMS to successfully carry out cross-border e-commerce activities.

ASEAN should pay special attention to SMEs and small shippers to be engaged in cross-border e-commerce. At a minimum, AMS should adopt and implement international best practices, as recommended by the World Trade Organization Trade Facilitation Agreement, especially the provisions on expedited shipments, and the Immediate Release Guidelines of the World Customs Organization.

5.6. Conclusions

After the pandemic, there is a need to improve transport networks in ASEAN, as this will lead to reduced transport costs, which in turn increases access to markets and boosts trade flows. Passenger transport requires dedicated vaccinated travel lanes; if connectivity is re-established, this will support the return of people-to-people connectivity in ASEAN.

E-commerce has grown exponentially in all AMS, but the success of e-commerce also depends on national and regional transport and logistics networks. Reconnection therefore requires ASEAN transport and logistics network integration, coupled with enhanced trade and transport facilitation.

Dialogue partners should share their expertise. Lessons learned from China are that developing regulations on e-commerce, especially cross-border e-commerce, is a long process (Su *et al.*, 2019). The experience of China also shows the complexity of cross-border e-commerce policymaking. AMS may consider implementing pilot projects to manage the possible risk of introducing cross-border e-commerce regulations, learning from the Chinese experience.

Japan needs to consider the implications of developing shorter supply chains embedded within ASEAN to serve its global market. This needs to be a joint effort between the Japanese public and private sector in reconfiguring regional supply chains at the ASEAN level.

It is difficult to propose policies when the situation related to the pandemic is ever changing, however. Policies tend to be reactive, with responses that are often not aligned with the up-to-the-minute situation. Nonetheless, the pandemic has been a wake-up call related to the need for ASEAN to continue its efforts in integrating transport and logistics networks. Developing simulation models predicting the impact of new policies would be useful to AMS when considering regional responses to natural or human-made events.

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