Malaysian Aviation Commission
Suruhanjaya Penerbangan Malaysia
MAVCOM

WAYPOINT

MALAYSIAN AVIATION INDUSTRY OUTLOOK | **DECEMBER 2020**

KEY HIGHLIGHTS

Record low passenger traffic expected in 2020

For the base case scenario, **MAVCOM revises downward its 2020 passenger traffic forecast to contract by between 72.8% YoY and 75.7% YoY, which translates to 26.6mn – 29.7mn passengers** (previous forecast: 54.3mn – 56.0mn; -48.7% to -50.3% YoY). This forecast assumes a lower load factor and a longer period of seat capacity recovery by airlines compared to previous forecasts.

2021 passenger traffic to rebound by between 94.2% YoY and 100.3% YoY

For 2021, passenger traffic is estimated to grow by between 94.2% YoY and 100.3% YoY, translating to 51.7mn – 53.3mn passengers. This huge jump is due to the low base effect in 2020. MAVCOM's estimation assumes airlines to gradually deploy more seat capacity as international travel restrictions are lifted, presumably in 2021. Additionally, there is an expectation of an increase in the average load factor assumption of between 60.0% and 67.0%. However, **great uncertainty still surrounds the forecast as the performance of the industry depends on several external factors such as the pathway of the Coronavirus Disease 2019 (COVID-19) pandemic, public health measures, and consumer behaviour.**

International passenger traffic was affected the most by the pandemic

Malaysia experienced a decline of 98.1% YoY in international passengers in 3Q20 (domestic passenger traffic: -69.3% YoY). This was due to the implementation of the Movement Control Order (MCO) which had restricted travelling. To date, international travel restrictions remain. Meanwhile, in 3Q20, the domestic passenger traffic gradually increased as domestic travel restrictions were eased on 10 June 2020.

Average fares returned to 2019 average level in 3Q20 after a hike in 2Q20

In 3Q20, average fares fell by 2.5% YoY to RM275 (2Q20: RM369; 3Q19: RM282) as airlines were allowed to operate at full capacity without implementing the ISD. The fall in average airfares was also due to the airfare promotions offered by Malaysian carriers to attract passengers to fly domestically after the domestic travel restriction was lifted.

KUL's air connectivity ranking dropped from third to sixth in 2020

Due to the pandemic, KUL's ranking fell three places to sixth in ASEAN. This was due to a 95.8% YoY reduction in the number of international seats from KUL, which was one of the largest reductions among the major airports in ASEAN. During the pandemic, all of the busiest airports in ASEAN experienced a decrease in the number of international destinations and seats. This was a result of the border restrictions imposed by the ASEAN Member States, where only essential travels are allowed.

TABLE OF ABBREVIATIONS

Abbreviations	
ACI	Air Connectivity Index
AirAsia	AirAsia Berhad
AirAsia X	AirAsia X Berhad
AOL	Aerodrome Operating Licence
ASEAN	Association of Southeast Asian Nations
ASL	Air Service Licence
bbl	barrel
bn	billion
BNM	Bank Negara Malaysia
CMCO	Conditional Movement Control Order
COVID-19	Coronavirus Disease 2019
CTK	Cargo Tonne Kilometre
Firefly	FlyFirefly Sdn. Bhd.
FTK	freight tonne kilometres
GDP	gross domestic product
GOM	Government of Malaysia
IATA	International Air Transport Association
IMF	International Monetary Fund
ISD	in-flight social distancing
JKJAV	COVID-19 Vaccine Supplies Access Guarantee Special Committee
MAB	Malaysia Airlines Berhad
MAHB	Malaysia Airports Holdings Berhad
Malindo	Malindo Airways Sdn. Bhd
MAVCOM	Malaysian Aviation Commission
MCO	Movement Control Order
mn	million
MOF	Ministry of Finance
MOH	Ministry of Health
MOSTI	Ministry of the Science, Technology and Innovation
RM	Ringgit Malaysia
RMCO	Recovery Movement Control Order
RPK	Revenue Passenger Kilometre
SOP	Standard Operating Procedure
US	United States of America
USD	United States Dollar
UK	United Kingdom
WEO	World Economic Outlook
YoY	Year-on-Year

AIRPORT CODES

Airport Code	
BKK	Suvarnabhumi Airport, Thailand (Bangkok)
BWN	Brunei International Airport, Brunei
CGK	Soekarno-Hatta International Airport, Indonesia (Jakarta)
DXB	Dubai International Airport, United Arab Emirates
HKG	Hong Kong International Airport, Hong Kong
ICN	Incheon International Airport, South Korea (Seoul)
KUL	Kuala Lumpur International Airport, Malaysia
LHR	London Heathrow, UK
MEL	Melbourne Airport, Australia
MNL	Ninoy Aquino International Airport, Philippines
PER	Perth Airport, Australia
PNH	Phnom Penh International Airport, Cambodia
RGN	Yangon International Airport, Myanmar
SGN	Tân Sơn Nhất International Airport, Vietnam
SIN	Changi Airport, Singapore
SYD	Sydney (Kingsford Smith) International Airport, Australia
TPE	Taoyuan International Airport, Taiwan
VTE	Wattay International Airport, Laos

List of Figures

List of Tables

CONTENTS

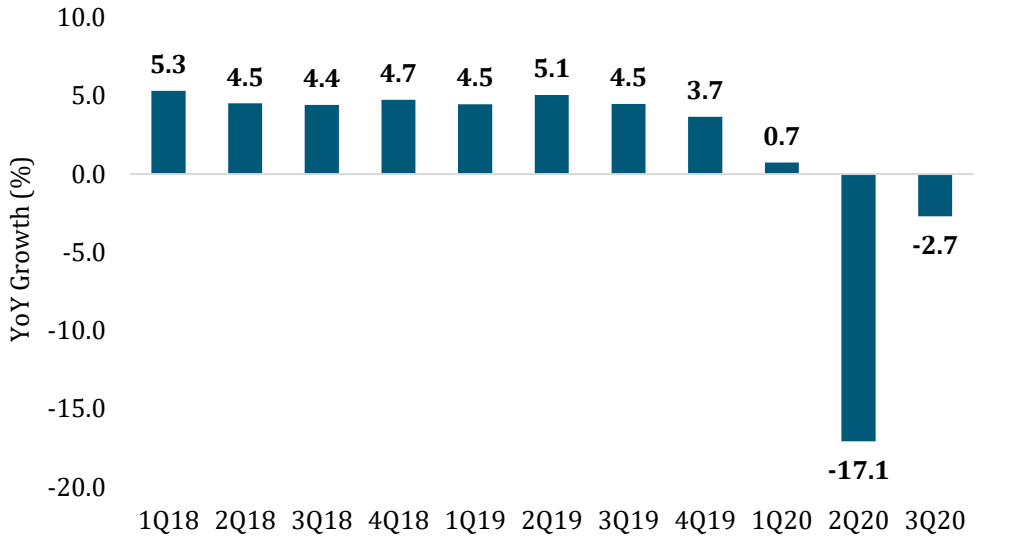
SECTION 1: MACROECONOMIC OVERVIEW AND OUTLOOK

The Adverse Impact of the Pandemic to the Economy was Greater than Anticipated

Malaysia's Economy Recorded a Smaller Contraction of 2.7% YoY in 3Q20 after an Unprecedented Decline in 2Q20

Malaysia's gross domestic product (GDP) shrank by 2.7% YoY in 3Q20 after plunging by 17.1% YoY in 2Q20 (see Figure 1). The GDP decline in 2Q20 —even worse than that during the Asian Financial Crisis in 1998 (4Q98: - 11.2% YoY)— was the steepest ever recorded in Malaysia's history.

Figure 1: Quaterly Malaysia GDP Growth, 2018 – 2020



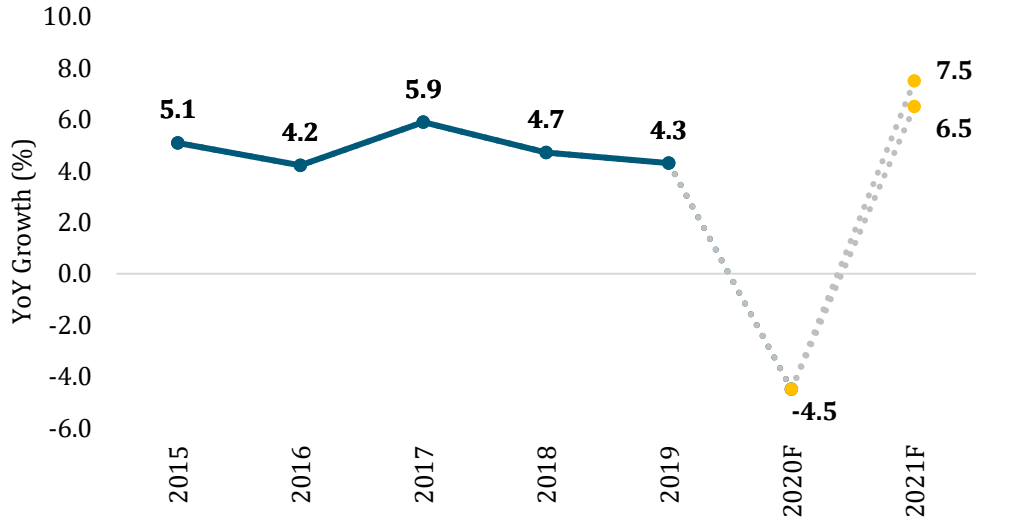
Source: BNM

The economy gradually recovered in 3Q20 as private consumption recovered significantly due to the transition from the Conditional Movement Control Oder (CMCO) to the Recovery Movement Control Order (RMCO). This recovery was also supported by the implementation of stimulus measures and a gradual recovery in the broad income conditions as economic activities resume.[1] In 2Q20, the MCO enforced by the GOM to combat the spread of COVID-19 had caused a drastic fall in economic activites. The MCO, implemented on 18 March 2020, included various measures that restricted production and consumption activities. This had caused production constraints and weak external demand conditions in many economic sectors.[2]

[1] BNM, Economic And Financial Developments in Malaysia in the Third Quarter of 2020 (November 2020).
[2]BNM, Economic And Financial Developments in Malaysia in the Second Quarter of 2020 (August 2020).

Malaysia's Economy is Expected to Decline by 4.5% YoY in 2020 and Rebound by between 6.5% YoY and 7.5% YoY in 2021

Figure 2: Malaysian 2020 and 2021 GDP Growth Forecast



Source: Economic Outlook 2021 Report

In the Economic Outlook 2021 Report, the Ministry of Finance (MOF) forecasts Malaysia's economy to decline by 4.5% YoY in 2020 (see Figure 2). In November 2020, the BNM maintained its forecast—made in August 2020—for Malaysia's economy to decline by between 3.5% YoY and 5.5% YoY for 2020. The BNM is expecting the decline to be closer to the higher end of the contraction as it has incorporated the assumption of a resurgence in COVID-19 cases.

For 2021, MOF and BNM both forecast the economy to grow in the range of 6.5% YoY and 7.5% YoY (see Figure 2). The BNM highlighted that the forecast remains subject to downside risk such as the reintroduction of further containtment measures.

Other Countries Experienced Similar Trends due to the COVID-19 Pandemic in 2Q20 and had Started to Recover in 3Q20

The spread of the pandemic and the actions taken to contain it have had a dramatic impact on Malaysia and many countries around the world. Table 1 shows the magnitude of the GDP decline in 2Q20 and 3Q20, as well as, the expected full-year 2020 GDP growth for selected countries.

Table 1: GDP Growth and 2020 Forecast for Selected Countries

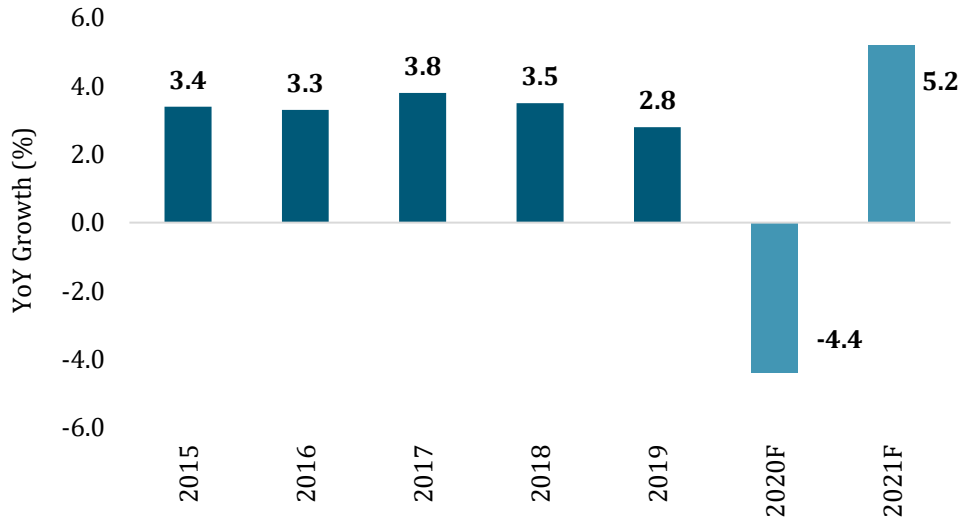
Country	Source	2Q20 YoY Growth (%)	3Q20 YoY Growth (%)	2020F YoY Growth (%)
Malaysia	Bank Negara Malaysia	-17.1	-2.7	-3.5 to -5.5
Singapore	Monetary Authority of Singapore	-13.2	-7.0	-5.0 to -7.0
Indonesia	Bank Indonesia	-5.3	-3.5	-1.5
Thailand	Office of the National Economic and Social Development Council	-12.1	-6.4	-6.0
US	Bureau of Economic Analysis	-31.4	-2.9	-3.7
UK	Office for National Statistics	-21.5	-9.6	-10.2
China	National Bureau of Statistics of China	3.2	4.9	1.9

Most countries had only started to recover in 3Q20, recording a smaller decline in GDP as containment measures were lifted. All countries in Table 1 experienced a YoY GDP decline in 2Q20 and 3Q20 except for China, which recorded a 3.2% YoY and 4.9% YoY growth, respectively. China's COVID-19 cases had declined significantly in 2Q20 following an aggresive lockdown in the 1Q20. The success in containment of the pandemic had allowed its economic activities to resume earlier compared to the other countries.

Global GDP is Expected to Fall by 4.4% YoY in 2020 Followed by a 5.2% YoY Growth in 2021

In its October 2020 World Economic Outlook (WEO), the International Monetary Fund (IMF) estimated a decline of 4.4% YoY for the global GDP in 2020, followed by a 5.2% YoY growth in 2021 (see Figure 3).

Figure 3: Global GDP Growth, 2015 – 2021F



Source: IMF

The global economy had gradually recovered in 3Q20 as many countries had eased their COVID-19 pandemic measures and resumed economic activities. However, with the pandemic continuing to spread, many countries have slowed reopening and some are reinstating partial lockdowns. To date, several countries including Malaysia, the UK, and Spain had reimplemented public health measures—such as the CMCO in Malaysia—due to a new wave of the pandemic. As such, there is still a large uncertainty surrounding the IMF's projection.

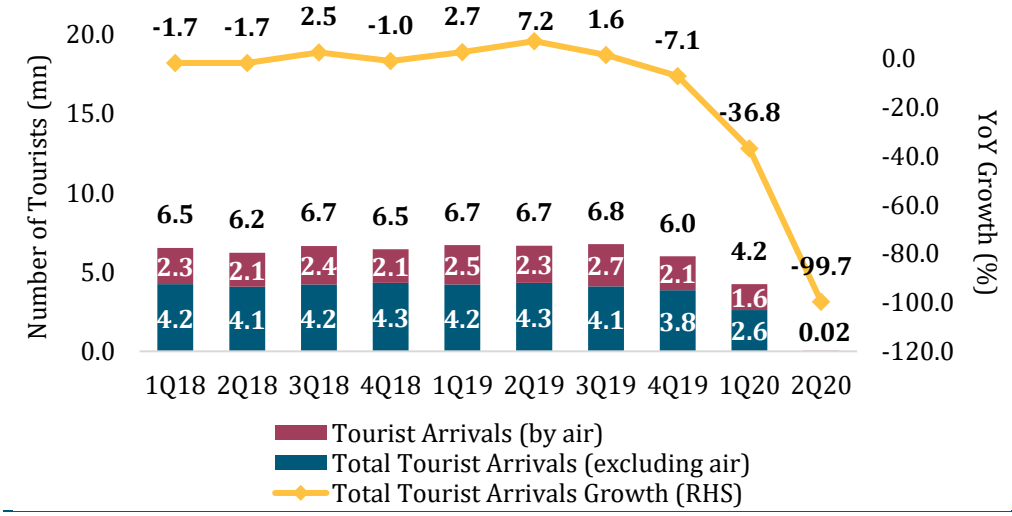
SECTION 2: INDUSTRY OVERVIEW

Tourism and Aviation Sectors were Devastated by COVID-19

Malaysia's Tourist Arrivals Contracted by 99.7% YoY in 2Q20*

The COVID-19 pandemic has had a huge negative impact on tourist arrivals into Malaysia. **The MCO restricted all international and domestic travels, in particular for tourism purposes. This had caused an unprecedented decline in tourist arrivals in 2Q20** (see Figure 4).

Figure 4: Quarterly Malaysia's Tourist Arrivals, 2018 – 2020



Source: Tourism Malaysia
Note: Data available up to 2Q20 only*

Due to the travel restrictions, only 19,542 tourists were recorded during 2Q20, which account for only 0.05% of total tourist arrivals in 1H20. Table 2 shows the number of tourist arrivals in 1H20 from the top five countries.

Table 2: 1H20 Number of Tourist Arrivals and YoY Growth from Top Five Countries into Malaysia

Country	Number of Tourist Arrivals in 1H20	YoY Growth (%)
Singapore	1,540,000	-71.3
Indonesia	702,082	-62.2
China	401,285	-74.3
Thailand	348,133	-64.9
India	153,873	-56.6

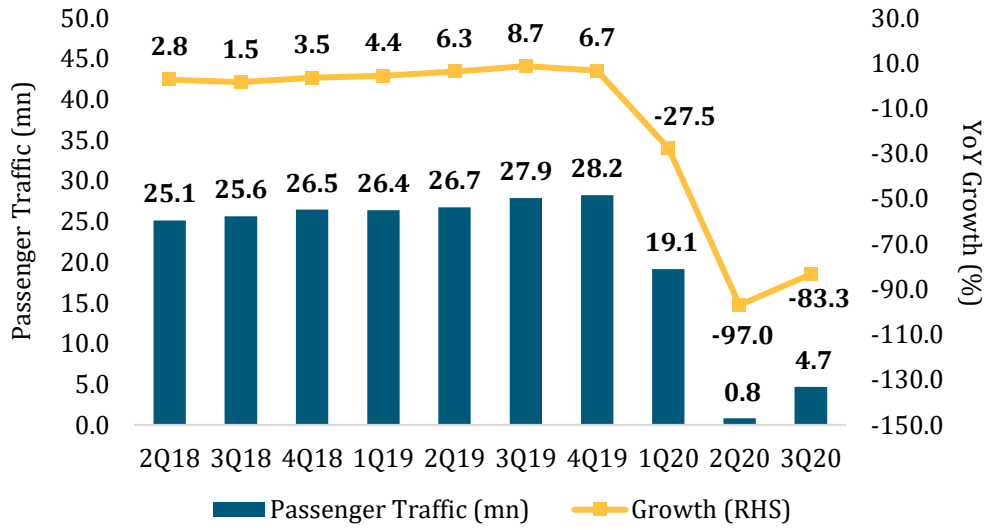
Source: Tourism Malaysia

Domestic travelling was allowed by the GOM following the announcement of the RMCO on 10 June 2020. However, international travel restrictions are still in place as of the publication of this report. Based on the announcement made by the GOM on 28 August 2020, the RMCO is expected to be lifted on 31 December 2020, which may allow international flights to resume. However, given the reimplementation of the CMCO in all states in the country except for Perlis, Pahang, and Kelantan, the lifting of international travel bans may be further delayed to 2021.

Malaysia's Quarterly Passenger Traffic Contracted by 83.3% YoY in 3Q20

Passenger traffic recovered slightly in 3Q20, showing a smaller decline of 83.3% YoY or 4.7mn passengers (see Figure 5). This compares to 2Q20, when Malaysia's passenger traffic dropped to only 802,525, recording a 97.0% YoY decline (2Q19: 26.7mn). This was the largest drop in the number of passenger traffic in the history of aviation in Malaysia.

Figure 5: Quarterly Malaysia's Passenger Traffic, 2018 – 2020

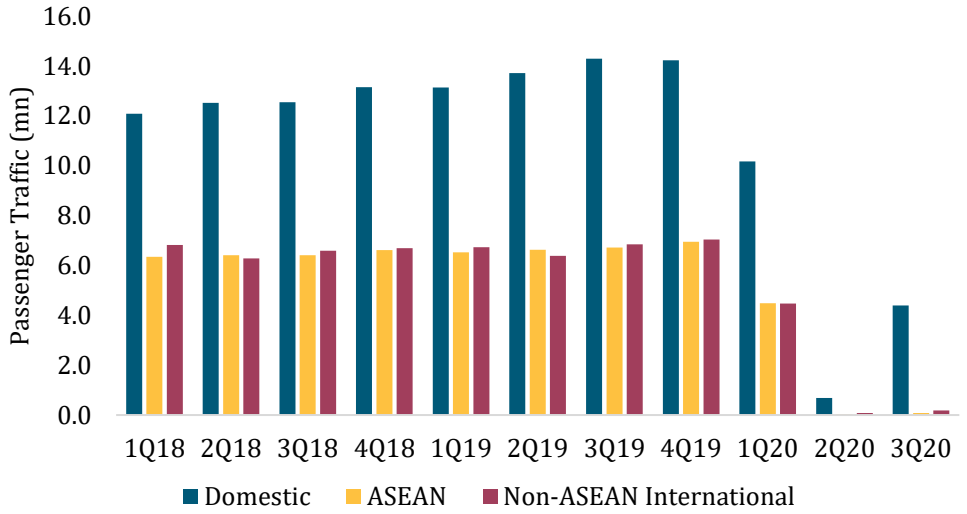


Source: MAVCOM, AOL Holders

Passenger traffic had recovered slightly in 3Q20 as domestic flights are allowed to operate following the ease of domestic travel restrictions on 10 June 2020. Whilst passenger traffic is recovering in 3Q20, the ascent will likely be uncertain as it depends on various external factors which will be discussed in Section 3.

International Passenger Movements were the Most Affected by the MCO

Figure 6: Quarterly Passenger Traffic Trend, 2018 – 2020



Source: MAVCOM, AirportIS

Figure 6 illustrates the quarterly trend of Malaysia's passenger traffic according to regions. **The YoY decline in passenger traffic for the ASEAN region was the steepest in 2Q20 and 3Q20 (see Table 3), followed by the Non-ASEAN international passengers.** The domestic region experienced the greatest recovery in 3Q20 compared to other regions as domestic travel restrictions were eased at the end of 2Q20.[3]

Table 3: 2Q20 and 3Q20 Passenger Traffic Growth YoY

Quarter	Domestic (%)	ASEAN (%)	Non-ASEAN International (%)
2Q20	-95.0	-99.5	-98.7
3Q20	-69.3	-98.8	-97.4

Source: AOL Holders

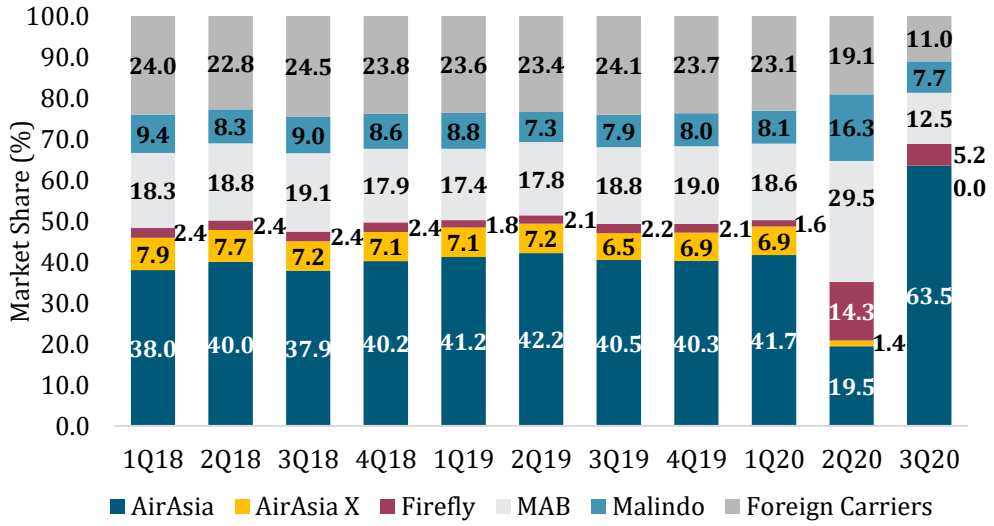
The international passenger traffic would recover once the international travel bans for Malaysia and other countries are lifted. As long as the travel restrictions are in place, airport operators in Malaysia would lose out on the international passenger traffic revenue collection via the Passenger Service Charge, as well as, their connectivity with other countries.

[3] 10 June 2020.

AirAsia Strengthened its Dominance in 3Q20

The pandemic had caused a significant change to the airlines' market structure in Malaysia (see Figure 7).

Figure 7: Percentage of Airline's Market Share by Passengers, 2018 – 2020



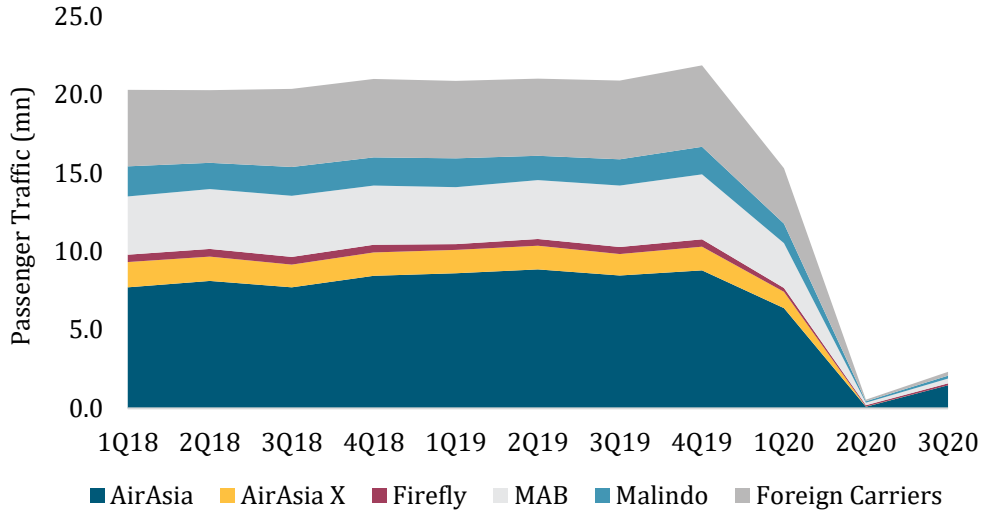
Source: MAVCOM, AirportIS

In 2Q20, AirAsia's and AirAsia X's market shares fell considerably to 19.5% and 1.4%, respectively (2Q19: 42.2% and 7.2%, respectively). **The drop in the market shares for AirAsia and AirAsia X in 2Q20 was due to significant capacity cuts as both carriers halted their international flight operations, which account for approximately 45.0% and 100.0% of their total flight operations in 2019**, respectively. In contrast—despite also cutting its capacity—**MAB increased its market share to 29.5% (2Q19: 17.8%) as it continued to serve—although limited—international flights.** MAB had reinstated international flights between April 2020 and May 2020 to Australia, New Zealand, and the UK as demand persists as travellers were returning home under the MCO.

In 3Q20, AirAsia gained the most percentage of market share compared to other carriers. It had started to operate 52.0% of its domestic capacity in September 2020 as domestic travel demand had gradually increased since 2Q20.[4] Meanwhile, all other carriers' market shares had fallen as AirAsia had deployed 260.7% more seat capacity in 3Q20 compared to 2Q20 (Firefly: 34.5%, MAB: 139.4%, Malindo: 112.1%). Although AirAsia's market share increased considerably, the **overall market size is still minuscule compared to the pre-pandemic level in 2019** (see Figure 8).

[4] AirAsia, https://newsroom.airasia.com/news/2020/10/26/aagb-3q20-preliminary-ops-stats (October 2020).

Figure 8: Quarterly Number of Passengers Carried, 2018 – 2020

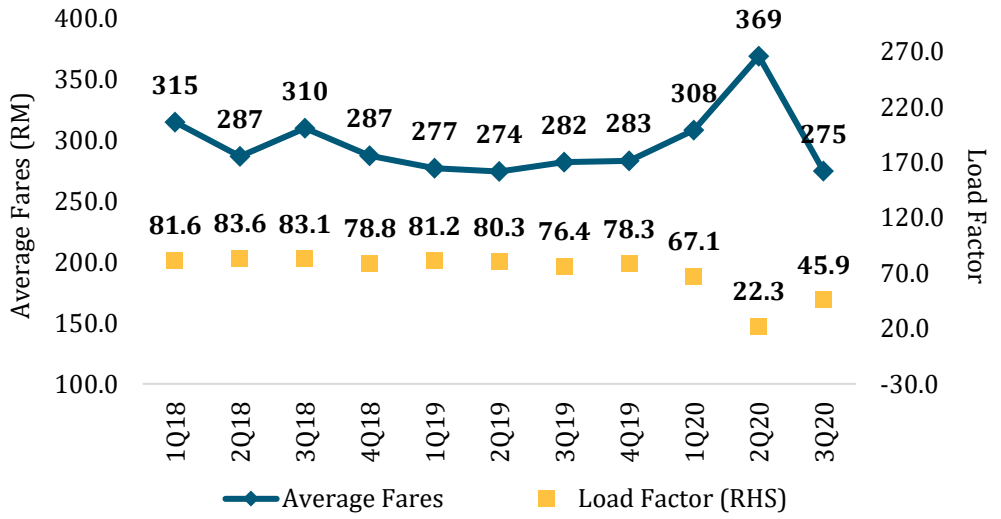


Source: MAVCOM, AirportIS

Malaysian Carriers' Average Fares Returned to their 2019 Average Levels in 3Q20 after a Significant Hike in 2Q20

Malaysian carriers' average fares increased by 34.6% YoY to RM369 in 2Q20 (2Q19: RM274) before dipping to RM275 in 3Q20 (3Q19: RM282) (see Figure 9). Malaysian carriers reported load factors of 22.3% and 45.9% in 2Q20 and 3Q20, respectively. The load factors were significantly lower than they had reported in the previous year's corresponding quarters of 80.3% and 76.4%, respectively.

Figure 9: Malaysia Carrier's Average Fares and Load Factor, 2018 – 2020



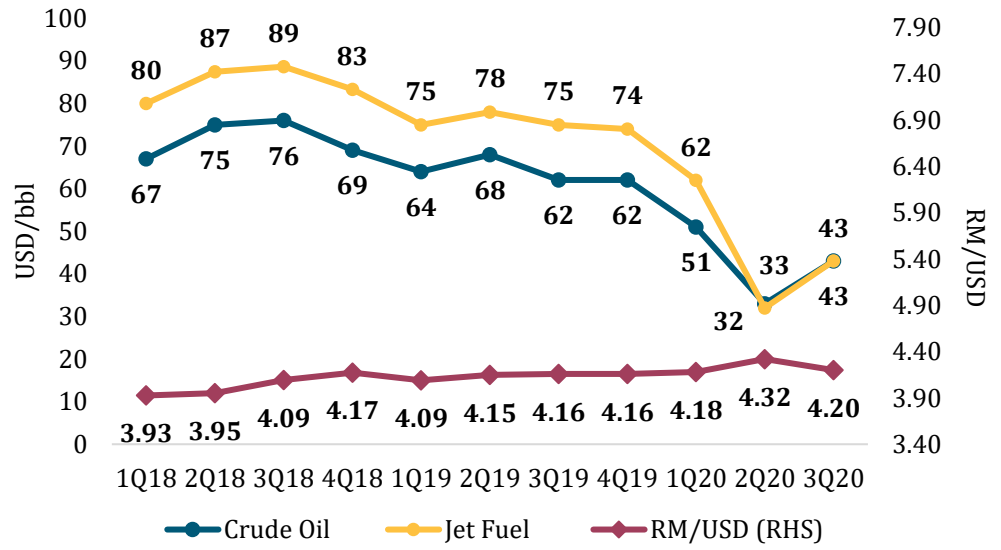
Source: MAVCOM, AirportIS

The increase in average airfares in 2Q20 was due to the implementation of the ISD[5] starting from 5 May 2020 and the traveling restrictions imposed during the MCO. The ISD had reduced the available seat capacity deployed by airlines and increased the airlines unit costs. This in turn provided an upward pressure on fares. In May 2020[6], IATA warned of a 43.0% YoY – 54.0% YoY increase in global average airfares should there be an implementation of ISD by governments. The implementation of ISD would push down airlines' average load factor to below their break-even load factor. According to IATA, the average break-even load factor for Asia Pacific is 81.0%.

In 3Q20, average fares fell to RM275 as airlines were allowed to operate at full capacity without implementing the ISD. The GOM announced the withdrawal of the ISD implementation on 11 June 2020[7]. This decision was well received by Malaysian carriers and tourism associations. The fall in average airfares was also due to airfare promotions offered by Malaysian carriers to attract passengers to fly domestically after the domestic travel restriction had been lifted.

[5] The ISD implemented by GOM requires airline to carry only 50.0% of the total maximum capacity of the aircraft.
[6] IATA, Cost Of Air Travel Once Restrictions Start To Lift (May 2020).
[7] Standard operating procedures (SOPs) released on 16 June 2020.

Figure 10: Oil, Jet Fuel, and Exchange Rate Trends, 2018 – 2020



Source: MAVCOM, AirportIS

In 3Q20, Brent crude and jet fuel averaged USD43/bbl, with an average crack spread[8] of USD0/bbl. Although a low oil price environment lowers the cost of operations, airlines that are highly hedged will not potentially benefit from the fall in oil price. Subsequently, they will suffer from the revenue decline in the passenger traffic segment. In the same quarter, the RM/USD exchange rate depreciated to RM4.20/USD (see Figure 10).

[8] The crack spread is the price difference between a barrel of crude oil and jet fuel. It is also known as the refining margin.

SECTION 3: INDUSTRY OUTLOOK

Record Low Passenger Traffic Expected in 2020

Global Passenger Traffic to Decline by 66.0% YoY in 2020

In September 2020, **IATA revised its global passenger traffic growth forecast to -66.0% YoY** (previous forecast: -63.0% YoY) (see Table 4). Passenger traffic growth for the Asia Pacific is forecasted to be at -69.2% YoY (previous forecast[9]: -50.0 YoY), owing to prolonged travel restrictions, lower passenger confidence, and muted demand amid the economic slowdown.

Table 4: Global Passenger Traffic Forecasts by IATA

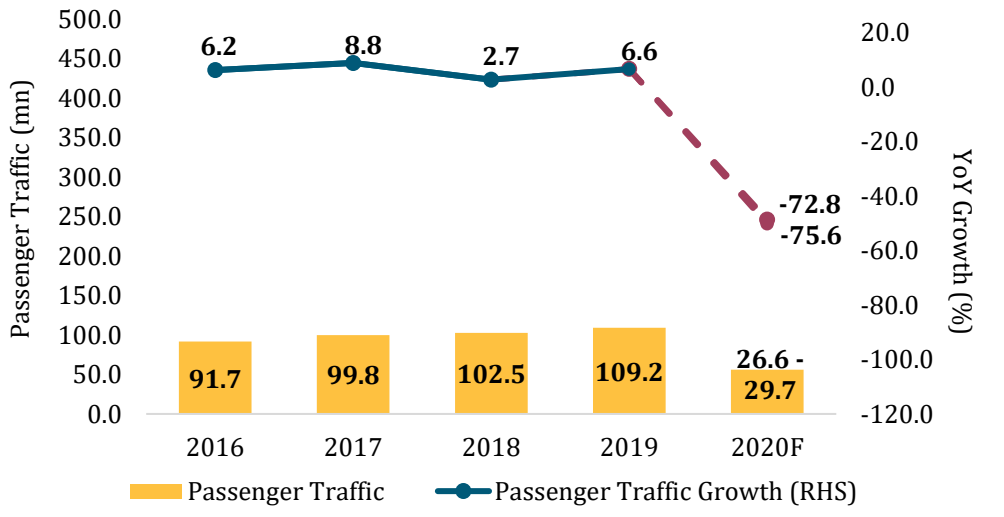
Key Figure	2018 YoY Growth (%)	2019 YoY Growth (%)	2020 YoY Growth Forecast (%)
Global Passenger Traffic[10]	7.4	4.2	-66.0

Source: IATA

Malaysia's Passenger Traffic is Expected to Contract by between 72.8% YoY and 75.6% YoY in 2020

For the base case scenario, **MAVCOM revises downward its 2020 passenger traffic forecast to contract by between 72.8% YoY and 75.7% YoY, which translates to 26.6mn – 29.7mn passengers** (previous forecast: 54.3mn – 56.0mn; -48.7% to -50.3% YoY) (see Figure 11). This forecast assumes a lower range of load factor and a longer period of seat capacity recovery by airlines as they continue to cut seat capacity.

Figure 11: Passenger Traffic in Malaysia, 2016 – 2020F



Source: MAVCOM

[9] IATA's previous forecast on 14 April 2020.
[10] Growth forecasts in terms of Revenue Passenger Kilometre (RPK).

In the June 2020 Waypoint report, MAVCOM presented three possible scenarios for the potential impact of the pandemic on passenger traffic growth in 2020. Based on the latest developments, new assumptions were made for the three possible scenarios. Table 5 shows the revised forecast for 2020 along with the estimated seats and load factor assumptions, based on the three scenarios.

Table 5: 2020 Passenger Traffic Forecast According to Scenarios

Scenario	Estimated seats (mn)	Load Factor Assumptions (%)	Passenger Traffic (mn)	YoY Growth
Best	41.1	58.0 – 60.0	31.2 – 32.3	-70.5% to -71.4%
Base	39.4	52.0 – 58.0	26.6 – 29.7	-72.8% to -75.6%
Worst	37.4	50.0 – 54.0	24.3 – 26.3	-76.0% to -77.8%

Source: MAVCOM

During the first 10 months of 2020, the cumulative passenger traffic number was 25.3mn, which was within the worst case scenario of MAVCOM's revised forecast.

The Revenue-at-Risk for Malaysian Air Service Licence and Aerodrome Operating Licence Holders is Estimated at RM15.0bn in 2020

Based on MAVCOM's passenger traffic growth forecast in 2020, for the base case scenario, **the revenue-at-risk for Malaysian and foreign carriers is estimated at RM14.3bn and RM6.7bn,** respectively (previous estimates: RM11.3bn and RM4.6bn). **For Malaysian aerodrome operators, the revenue derived from passenger service charge that is at risk is estimated at RM717.7mn** (previous estimate: RM500.0mn). The revenue-at-risk for both ASL and AOL holders is estimated at RM15.0bn (previous estimate: RM11.8bn).

Improvement in Air Cargo Remains Slow Amid Insufficient Capacity

Global Cargo Traffic to Decline by 16.8% YoY in 2020

In June 2020, IATA forecasted cargo traffic to decline by 16.8% YoY (see Table 6). According to IATA, the improvement in the air cargo sector remains slow amid insufficient capacity.

Table 6: Global Cargo Traffic Forecasts by IATA

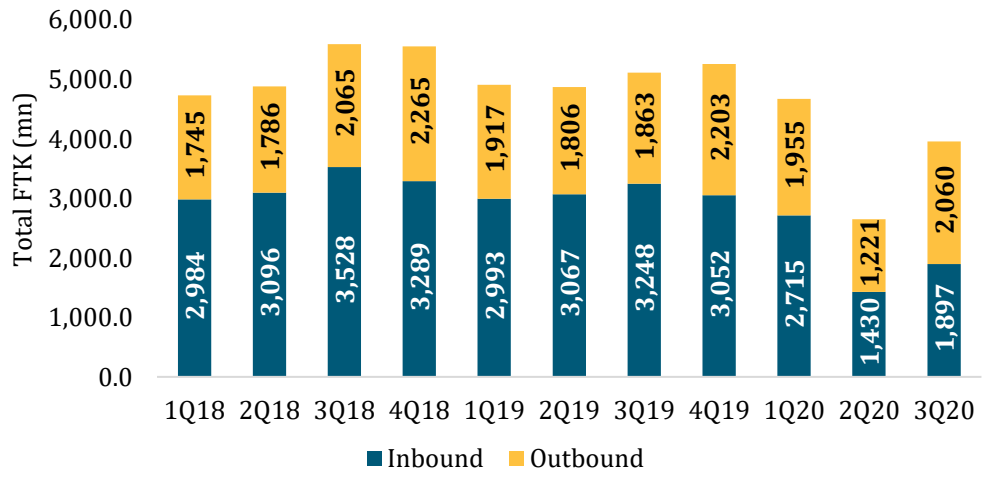
Key Figure	2018 YoY Growth (%)	2019 YoY Growth (%)	2020 YoY Growth Forecast (%)
Global Cargo Traffic[11]	3.4	-3.3	-16.8

Source: IATA

Although passenger fleet has gradually come back to service, the belly cargo capacity had only recovered slightly. In September 2020[12], IATA stated that most airlines operate narrow-body passenger aircraft, which could not accommodate as much cargo as the larger wide-body planes. According to Boeing[13], up to September 2020, global air cargo capacity was down by 25.0% YoY due to a reduction in passenger wide-body network. As a result, air cargo traffic volumes were down 12.0% YoY. However, yields were up more than 40.0% YoY and overall air cargo industry revenues were 15.0% YoY higher.

Slight Improvement in Malaysia's Total Freight Tonne Kilometres in 3Q20

Figure 12: Total FTK in Malaysia, 2018 – 2020



Source: MAVCOM, CargoIS

Malaysia's total freight tonne kilometres (FTK) recorded a decline of 22.6% YoY in 3Q20 (2Q20: -45.5% YoY). The inbound cargo fell by 41.6% YoY in 3Q20 while outbound cargo increased by 10.6% YoY. Malaysia's air cargo operations during the pandemic was explained in depth in Section 4 of MAVCOM's Waypoint June 2020 edition.

[11] Growth forecasts in terms of Cargo Tonne Kilometre (CTK) (freight and mail).
[12] IATA, Monthly Air Cargo Market Analysis (September 2020).
[13] Boeing, World Air Cargo Forecast 2020 – 2039 (November 2020).

Gradual Recovery in Passenger Traffic is Expected in 2021

Passenger Traffic in 2021 is Expected to Grow by between 94.2% YoY and 100.3% YoY

For 2021, passenger traffic is estimated to grow by between 94.2% YoY and 100.3% YoY, translating to 51.7mn – 53.3mn passengers (base case). This huge jump is due to the low base effect in 2020. MAVCOM's estimation assumes airlines to gradually deploy more seat capacity as international travel restrictions are lifted, presumably in 2021. Additionally, there is an expectation of an increase in the average load factor assumption of between 60.0% and 67.0%.

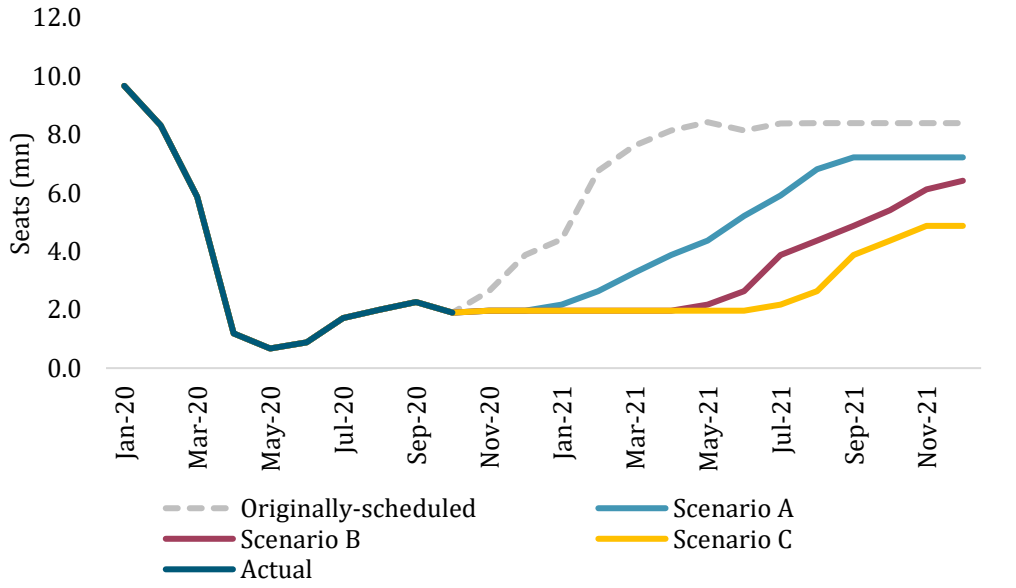
Due to the overall magnitude and duration of the pandemic, which is still uncertain, three different scenarios were developed. The three scenarios are based on the estimation of the seat cancellations by carriers, which depends on the period of the lifting of the traveling bans (see Table 7). The monthly seat capacity trend for each scenario is illustrated in Figure 13.

Table 7: Description of Forecast Scenarios

Scenario	Description
Scenario A (best case)	• Further 38.1% seat cancellations than originally scheduled by airlines • Load factor beween 65.0% and 67.0%
Scenario B (base case)	• Further 53.2% seat cancellations than originally scheduled by airlines • Load factor between 63.0% and 65.0%
Scenario C (worst case)	• Further 67.5% seat cancellations than originally scheduled by airlines • Load factor between 60.0% and 63.0%

Source: MAVCOM

Figure 13: Seat Capacity Recovery According to Scenarios, 2020 – 2021F



Source: MAVCOM

The 2021 passenger traffic based on the scenarios are shown in Table 8 below:

Table 8: 2021 Passenger Traffic Forecast According to Scenarios

Scenario	Estimated seats (mn)	Load Factor Assumptions (%)	Passenger Traffic (mn)	YoY Growth
Scenario A (best case)	83.4	65.0 – 67.0	70.5 – 72.7	164.8% to 172.9%
Scenario B (base case)	63.1	63.0 – 65.0	51.7 – 53.3	94.2% to 100.3%
Scenario C (worst case)	43.7	60.0 – 63.0	34.1 – 35.8	28.2% to 34.6%

Source: MAVCOM

For the base case scenario, passenger traffic is estimated to grow by between 94.2% YoY and 100.3% YoY, translating to 51.7mn – 53.3mn passengers. This forecast assumes an average annual load factor of between 63.0% and 65.0% and 53.2% further seat cancellations than originally scheduled by airlines.

If the spread of COVID-19 is contained and travel restrictions are lifted in 1Q21, MAVCOM's best case scenario forecasts a growth of 164.8% YoY to 172.9% YoY. This forecast assumes a recovery for both domestic and international markets by early 2021.

However, if the spread of COVID-19 does not recede and travel restrictions prolong, MAVCOM's worst case scenario estimates that passenger traffic in 2021 will grow by between 28.2% YoY and 34.6% YoY, translating to 34.1mn – 35.8mn passengers. This assumes a lower load factor and a further 67.5% seat cancellations than originally scheduled by airlines.

Given the rapidly changing circumstances, MAVCOM's forecast will depend on several factors:

- **The development of vaccines:** the only decisive solution to the pandemic is the development of vaccines. Any progress or setbacks in efforts to develop vaccines will influence the medium-to-long term outlook of the industry. The Ministry of Health (MOH) and the Ministry of Science, Technology and Innovation (MOSTI), in a joint statement, stated that the GOM is expected to secure access to COVID-19 vaccines in 1Q21. The GOM had contacted eight vaccine producers, which are currently in the third phase of their clinical trials. This is following the meeting of the COVID-19 Vaccine Supplies Access Guarantee Special Committee (JKJAV) on 24 October 2020.
- **Public health measures:** passenger traffic movements directly depend on the imposition of public health measures such as the MCO. The ease of the domestic travel restrictions by the GOM—following the announcement of the RMCO on 10 June 2020—showed a gradual recovery of the domestic passenger traffic. However, due to a third wave of the pandemic, the GOM had reimplemented the CMCO in all states in Malaysia except for Kelantan, Perlis, and Pahang from 9 November 2020 to 6 December 2020. This may prolong the recovery period of the industry.

- **The development of air travel bubbles:** this may help restart international passenger movements. Previously, there were plans by the GOM to establish travel bubbles with New Zealand, Australia, Japan, Singapore, and South Korea that were previously considered as COVID-19 green zone countries. However, the rise in the number of COVID-19 cases in many parts of the world, including Malaysia, may have put such plans on hold as many countries had re-introduced travel restrictions due to the rise in daily cases.
- **Consumer behaviour:** consumers will be less willing to travel by air due to the risk of contracting COVID-19. In October 2020[14], IATA had claimed that research points to low risk for COVID-19 transmission in-flight. Since the start of 2020, there were 1.2bn passengers traveled worldwide but only 44 cases of COVID-19 reported in which transmission is thought to have been associated with a flight journey (inclusive of confirmed, probable, and potential cases). However, despite this finding, consumers may still be less willing to travel by air due to the unprecedented impact the pandemic had caused globally.

[14] IATA, https://www.iata.org/en/pressroom/pr/2020-09-08-012/ (September 2020).

SECTION 4: AIR CONNECTIVITY

KUL's Airport Level Connectivity Rank Dropped to Sixth During the Pandemic

Drastic Change in the Connectivity Scores and the Ranks due to the Pandemic

There was a drastic change in the connectivity scores and the ranks of the busiest airports in ASEAN due to the pandemic in 2020b[15] whereas the ranks had remained constant between 2018 to 2020a[16] (see Tables 9 and 10). The difference in the air connectivity index (ACI) was due to the changes in the number of destinations, the number of international seats, as well as, the weightage of the airports they are connected to. BKK is currently first in the 2020b ranking as it is connected to the most destinations and offered the highest number of seats (see Table 10).

Table 9: ACI of the Busiest Airports in ASEAN, 2018 – 2020a

Airport	Connectivity Ranking			Connectivity Score		
	2018	2019	2020a	2018	2019	2020a
SIN	1	1	1	114.6	116.9	116.6
BKK	2	2	2	109.9	109.2	108.4
KUL	**3**	**3**	**3**	**71.8**	**73.2**	**71.9**
MNL	4	4	4	61.1	66.1	66.5
CGK	5	5	5	50.1	48.1	48.3
SGN	6	6	6	38.1	39.7	39.6
PNH	7	7	7	14.7	16.6	16.8
RGN	8	8	8	13.9	12.9	12.4
BWN	9	9	9	5.2	5.5	5.5
VTE	10	10	10	4.7	5.0	5.0

Source: MAVCOM, AirportIS

Table 10: Airport Level Connectivity Scores, 2020b

Airport	Least Busy Month of 2020	Rank	Connectivity	Total Seats	Total Destinations
BKK	Apr	1	8.4	223,528	60
MNL	Apr	2	5.2	116,275	33
SIN	May	3	5.1	147,009	44
CGK	May	4	4.2	84,765	33
SGN	May	5	3.9	63,084	12
KUL	**May**	**6**	**3.6**	**110,437**	**44**
RGN	Jun	7	0.7	14,266	10
PNH	May	8	0.6	18,096	21
VTE	May	9	0.5	8,940	5
BWN	May	10	0.4	7,558	5

Source: MAVCOM, AirportIS

[15] "b" denotes the period during the COVID-19 pandemic, which is based on the least busy month of 2020.
[16] "a" denotes the period before the COVID-19 pandemic begins, which is based on the busiest month of 2020.

Normally, MAVCOM calculates the ACI based on the number of seats in the busiest month of the year. However, to observe the impact of the pandemic on connectivity, the calculation of the ACI for 2020b was based on the airports' least busiest month. This is the month with the least number of international seats scheduled up to August 2020.

It was observed that not all airports experienced their least busy month during the pandemic at the same time. Most airports recorded their least busy month in May 2020 except for BKK, MNL, and RGN (see Table 10). This is due to the travel restrictions being imposed and lifted at varying times in the different countries. For example, several ASEAN Member States imposed travel restrictions in late March 2020 and lifted these restrictions by early June 2020. On the other hand, airports in Thailand such as BKK resumed operations as early as 1 May 2020, while Myanmar only allowed travel in July 2020.

All of the Busiest Airports in ASEAN Experienced a Decrease in the Number of International Destinations and Seats

All of the busiest airports in ASEAN experienced a decrease in the number of international destinations and seats due to the pandemic (see Table 11). This decrease is the result of the border restrictions imposed by the ASEAN Member States, where only essential travels are allowed. For example, Malaysia implemented entry and movement restrictions on all foreign nationals, with very limited exceptions. Hence, passengers from certain countries such as the US were prohibited entry unless they are citizens of Malaysia. These border restrictions caused most airlines to cancel their flights due to low demand, which therefore affected the number of international seats and destinations offered from KUL.

Overall, the total number of international seats in all airports diminished by more than 90% (see Table 11), with SIN having the largest reduction of 96.3%. Although SIN offered both a higher number of destinations and seats than MNL, 72.8% of its seats are to low weightage airports (weightage of 0.5 and below). On the other hand, only 54.6% of seats from MNL are to low weightage airports. This may be the reason why SIN, which usually dominates the top ranking every year, now ranks third behind BKK and MNL.

Table 11: Changes to the Number of Seats and International Destinations for the Busiest Airports in ASEAN, 2019 – 2020b

Airport	2020b Rank	Number of Destinations		% Change	Number of Seats (mn)		% Change
		2019	2020b		2019	2020b	
BKK	1	165	60	-63.6	3.11	0.22	-92.8
MNL	2	59	33	-44.1	1.41	0.12	-91.8
SIN	3	163	44	-73.0	3.97	0.15	-96.3
CGK	4	44	33	-25.0	0.97	0.08	-91.2
SGN	5	53	12	-77.4	0.87	0.06	-92.7
KUL	**6**	**129**	**44**	**-65.9**	**2.64**	**0.11**	**-95.8**
RGN	7	29	10	-65.5	0.29	0.01	-95.1
PNH	8	40	21	-47.5	0.40	0.02	-95.5
VTE	9	22	5	-77.3	0.14	0.01	-93.5
BWN	10	31	5	-83.9	0.13	0.01	-94.0

Source: MAVCOM, AirportIS

KUL's ACI Declined due to Large Reductions in Seats Offered to High Weightage Airports

Due to the pandemic, KUL's ranking fell three places to sixth in ASEAN. KUL had a 95.8% YoY reduction in the number of international seats, which was one of the largest reductions among the major airports in ASEAN. In addition, the number of seats served from KUL to DXB, LHR, and HKG—three airports with the highest weightage—decreased by 99.1%, 95.3%, and 90.1%, respectively. This severely impacted the overall connectivity score of KUL since the weightage of the destination airports served is a vital component of the ACI.

As highlighted in MAVCOM (2017)[17] and MAVCOM (2018)[18], it was observed that despite KUL serving a higher number of destinations and total number of seats than both CGK and SGN, it ranked behind these airports. This was due to KUL being connected to airports with low weightage, which do not contribute much to its overall connectivity score. In fact, 40.9% of the destinations served by KUL have an airport weightage of less than 0.1.

To illustrate this point further, KUL can be compared to SGN, where it was observed that SGN having more seats than high weightage airports such as HKG, ICN, and TPE (see Table 12). Since the connectivity indicator score is a product of the total number of seats and airport weightage, SGN's overall connectivity score was higher than KUL's despite having a lower total number of scheduled seats.

Table 12: Connectivity difference between SGN and KUL, 2020b

Airport	Weightage	SGN		KUL		Connectivity Difference
		Seats	Connectivity	Seats	Connectivity	
HKG	0.8426	11,200	0.9438	7,528	0.6343	0.3095
ICN	0.7487	16,205	1.2133	2,296	0.1719	1.0414
TPE	0.5307	21,053	1.1174	11,182	0.5935	0.5239

Source: MAVCOM, AirportIS

[17] MAVCOM, Waypoint Report (August 2017).
[18] MAVCOM, Technical Paper: Measuring and Defining Air Connectivity (May 2018).

Malaysia's Country Level Connectivity Would be Affected by the Survivability of the Local Airlines

Airlines Face Major Financial Issues due to the Pandemic

Due to the pandemic, airlines face major financial issues as demand for flights had drastically decreased. Consequently, many airlines decided to retrench their staff. To alleviate the issue of unemployment in the aviation industry, the GOM recently announced for a RM50.0mn provision for training and placement programme for 8,000 airline employees in the Budget 2021.

AirAsia X is undergoing restructuring which includes retrenchments, downsizing its fleet, and shutting down some of its international operations as part of a major overhaul to deal with the downturn.[19] MAB has been facing overcapacity problems and appealed to its creditors to take a significant haircut on debts owed. However, as a last resort, Khazanah Nasional Berhad may opt to ground MAB's fleet permanently and instead turn the turboprop operator, Firefly, into the new national carrier.[20] Thus, a few hypothetical scenarios involving the five local airlines that might transpire in the future have been identified (see Table 13) and MAVCOM has analysed the potential effects they may have on Malaysia's ACI.

Table 13: Description of Scenarios

Scenario	Description
Scenario 1	• MAB ceases all operations or it ceases all international operations and maintains skeletal domestic operations • Firefly, AirAsia, AirAsia X, and Malindo continue to operate a limited route network
Scenario 2	• Both MAB and AirAsia X cease all international operations • Firefly, AirAsia, and Malindo continue to operate a limited route network
Scenario 3	• Firefly becomes the sole regional operator serving domestically and to a limited number of ASEAN cities • All other Malaysian local-based carriers cease domestic and international operations
Scenario 4	• MAB, AirAsia X, and Malindo cease all operations • AirAsia operates domestic and regional routes • Firefly assumes domestic and a limited number of regional services

Source: MAVCOM

[19] Flight Global, https://www.flightglobal.com/airlines/airasia-group-carriers-weigh-up-covid-19-measures/140714.article (21 October 2020).
[20] New Straits Times, https://www.nst.com.my/business/2020/10/632451/khazanah-liquidate-malaysia-airlines-last-resort-turn-firefly-new-national (15 October 2020).

Malaysia's ACI rank among the countries in ASEAN fell from fourth in 2019 to fifth during the pandemic in 2020 and should any one of the scenarios take place, Malaysia's ranking will further drop to sixth in ASEAN (see Table 14). The ranking then remains the same across all four scenarios because there are only slight differences between the ACI of these scenarios. Meanwhile, the margin between Malaysia's and the seventh ranked country, Cambodia's ACIs is comparatively wide. Hence, the different scenarios do not have a major effect on the country level connectivity rankings as a whole.

Table 14: ACI of ASEAN Countries, 2019 – 2020b

Rank	2019	2020b	Scenario 1	Scenario 2	Scenario 3	Scenario 4
1	TH	TH	TH	TH	TH	TH
2	SG	VN	VN	VN	VN	VN
3	ID	PH	PH	PH	PH	PH
4	**MY**	SG	SG	SG	SG	SG
5	VN	**MY**	ID	ID	ID	ID
6	PH	ID	**MY**	**MY**	**MY**	**MY**
7	KH	KH	KH	KH	KH	KH
8	MM	MM	MM	MM	MM	MM
9	LA	LA	LA	LA	LA	LA
10	BN	BN	BN	BN	BN	BN

Source: MAVCOM, AirportIS

In 2019, half of Malaysia's connectivity score was attributed to connections to Singapore, Hong Kong, and South Korea. In fact, Singapore contributed as much as 32.1% of Malaysia's ACI. However, during the pandemic, Singapore's contribution was reduced to 7.4%. This indicates that the reduction in seats by airlines are to high weightage destinations, which have considerable significance to connectivity.

During the pandemic, countries with higher connectivity rankings—such as Vietnam and Philippines—were supported by the operations of foreign carriers. For example, flights from Vietnam to Hong Kong, South Korea, and Taiwan were largely operated by Cathay Pacific Airways, Jeju Air, and China Airlines, respectively. Thus, Vietnam's ACI was relatively higher compared to other countries' ACIs despite having fewer domestic airlines in operation. On the other hand, Malaysia is highly dependent on local airlines for connectivity.

Malaysia's ACI Would Decrease by between 19.2% and 21.0% if Local Airlines Cease Operations

Based on Table 15, **the change in the ACI of Scenario 1 indicates that the cease of MAB's operations has the largest marginal impact on Malaysia's ACI as it decreases by 19.2%.** Without MAB, the number of seats scheduled to LHR would reduce by 72.6% since there will be no connections to LHR by Malaysian carriers. In addition, there would also be no connections to New Zealand by Malaysian carriers.

In Scenario 4, Malaysia will lose its connection to Australia by local carriers. MAB, AirAsia X, and Malindo Air would no longer offer flights from Malaysia to Australian airports such as SYD, MEL, and PER.

As a whole, Scenario 3 has the largest impact on the ACI. This is not surprising since Scenario 3 represents the extreme event where all Malaysian carriers except for Firefly halt their operations. The effect this has on the ACI encompasses all the outcomes of the other scenarios. Nonetheless, the consequences of this scenario will be somewhat mitigated by Firefly diversifying its connection to serve other ASEAN cities.

Table 15: Changes to the ACI, Number of Seats and International Destinations for Malaysia Based on Various Scenarios Compared to 2020b

Scenarios	ACI	Change in ACI (%)	Total Seats	Change in Seats (%)	Total Destinations	Change in Destinations (%)
2020b	4.67		134,130		49	
Scenario 1	3.78	-19.2%	111,025	-17.2%	41	-16.3%
Scenario 2	3.76	-19.6%	110,271	-17.8%	41	-16.3%
Scenario 3	3.69	-21.0%	103,071	-23.2%	39	-20.4%
Scenario 4	3.70	-20.9%	105,051	-21.7%	40	-18.4%

Source: MAVCOM Estimates, AirportIS

Recovery of Malaysia's Connectivity Score Would Depend on the Lifting of Travel Restrictions

MAVCOM's connectivity score is calculated based on the number of seats served to an international destination and the weightage of the airport. During the pandemic, international travelling was halted globally due to the travel restrictions that were implemented by governments to curb the spread of the pandemic. Hence, any improvement to the connectivity score would depend on the lifting of the international travel restrictions not just in Malaysia, but also in countries that are connected to Malaysia. In light of the economic downturn and reluctance of countries worldwide to lift their border controls, the seat capacity recovery to pre-pandemic levels is expected to take a longer time i.e. beyond 2020 and would also depend on the development of vaccines to restore passenger confidence.

APPENDIX: DATA TABLES

Table A1: Quarterly Malaysia GDP Growth, 2018 – 2020

Year	Malaysia YoY Growth (%)
1Q18	5.3
2Q18	4.5
3Q18	4.4
4Q18	4.7
1Q19	4.5
2Q19	5.1
3Q19	4.5
4Q19	3.7
1Q20	0.7
2Q20	-17.1
3Q20	-2.7

Source: Bloomberg, BNM, IMF, MOF

Table A2: Global and Malaysia's GDP Growth, 2010 – 2020F

Year	Global YoY Growth (%)	Malaysia YoY Growth (%)
2015	3.5	5.1
2016	3.3	4.2
2017	3.8	5.9
2018	3.5	4.7
2019	2.8	4.3
2020F	-4.4	-3.5 – -5.5
2021F	5.2	6.5 – 7.5

Source: Bloomberg, BNM, IMF, MOF

Table A3: Quarterly Malaysia's Tourist Arrivals, 2017 – 2020

Quarter	Tourist Arrivals (by air) (mn)	Total Tourist Arrivals (excluding air) (mn)	Total Tourist Arrivals (mn)	YoY Growth (%)
3Q17	1.7	4.7	6.5	-3.2
4Q17	2.0	4.6	6.5	-7.3
1Q18	2.3	4.2	6.5	-1.7
2Q18	2.1	4.1	6.2	-1.7
3Q18	2.4	4.2	6.7	2.5
4Q18	2.1	4.3	6.5	-1.0
1Q19	2.5	4.2	6.7	2.7
2Q19	2.3	4.3	6.7	7.2
3Q19	2.7	4.1	6.8	1.6
4Q19	2.1	3.8	6.0	-7.1
1Q20	1.6	2.6	4.2	-36.8
2Q20	-	-	0.02	-99.7

Source: Bloomberg, Tourism Malaysia
Note: Data available up to 2Q20 only

Table A4: Quarterly Passenger Traffic Trend, 2018 – 2020

Quarter	Passenger Traffic (mn)	YoY Growth (%)
1Q18	25.3	5.4
2Q18	25.1	2.8
3Q18	25.6	1.5
4Q18	26.5	3.5
1Q19	26.4	4.4
2Q19	26.7	6.3
3Q19	27.9	8.7
4Q19	28.2	6.7
1Q20	19.1	-27.5
2Q20	0.8	-97.0
3Q20	4.7	-83.3

Source: MAVCOM, AOL Holders

Table A5: Percentage of Airlines' Market Share by Passengers, 2018 – 2020

Quarter	AirAsia	AirAsia X	Firefly	Malindo	MAB	Others
1Q18	38.0	7.9	2.4	9.4	18.3	24.0
2Q18	40.0	7.7	2.4	8.3	18.8	22.8
3Q18	37.9	7.2	2.4	9.0	19.1	24.5
4Q18	40.2	7.1	2.4	8.6	17.9	23.8
1Q19	41.2	7.1	1.8	8.8	17.4	23.6
2Q19	42.2	7.2	2.1	7.3	17.8	23.4
3Q19	40.5	6.5	2.2	7.9	18.8	24.1
4Q19	40.3	6.9	2.1	8.0	19.0	23.7
1Q20	41.7	6.9	1.6	8.1	18.6	23.1
2Q20	19.5	1.4	14.3	16.3	29.5	19.1
3Q20	63.5	0.0	5.2	5.2	12.5	11.0

Source: MAVCOM, AirportIS

Table A6: Malaysian Carriers' Average Load Factor Trend, 2018 – 2020

Quarter	Load Factor (%)	Average Fare (RM)
1Q18	81.6	315
2Q18	83.6	287
3Q18	83.1	310
4Q18	78.8	287
1Q19	81.2	277
2Q19	80.3	274
3Q19	76.4	282
4Q19	78.3	283
1Q20	67.1	308
2Q20	22.3	369
3Q20	45.9	275

Source: MAVCOM, AirportIS

Table A7: Oil, Jet Fuel, and Exchange Rate Trends, 2018 – 2020

Quarter	Crude Oil (USD/bbl)	Jet Fuel (USD/bbl)	RM/USD
1Q18	67	80	3.93
2Q18	75	87	3.95
3Q18	76	89	4.09
4Q18	69	83	4.17
1Q19	64	75	4.09
2Q19	68	78	4.15
3Q19	62	75	4.16
4Q19	62	74	4.16
1Q20	51	62	4.18
2Q20	33	32	4.32
3Q20	43	43	4.20

Source: Bloomberg

Table A8: Passenger Traffic, 2016 – 2020F

Year	Passenger Traffic (mn)	YoY Growth (%)
2016	91.7	6.2
2017	99.8	8.8
2018	102.5	2.7
2019	109.2	6.6
2020F	26.6 – 29.7	-72.8 – -75.6

Source: MAVCOM, AOL Holders

This page is intentionally left blank

If you have any queries or comments, please contact:

MAVCOM

Level 19, Menara 1 Sentrum
201, Jalan Tun Sambanthan
50470 Kuala Lumpur
Malaysia

Tel: +603 2772 0600
Fax: +603 2772 0601
Email: enquiries@mavcom.my