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Effects of Novel Coronavirus (COVID-19) on Civil Aviation: Economic Impact Analysis

Montréal, Canada
9 April 2020

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- **Impacts on airports, cargo and tourism**
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The preliminary estimates indicate the COVID-19 impact on scheduled international passenger traffic during first half 2020, compared to Baseline (originally-planned):

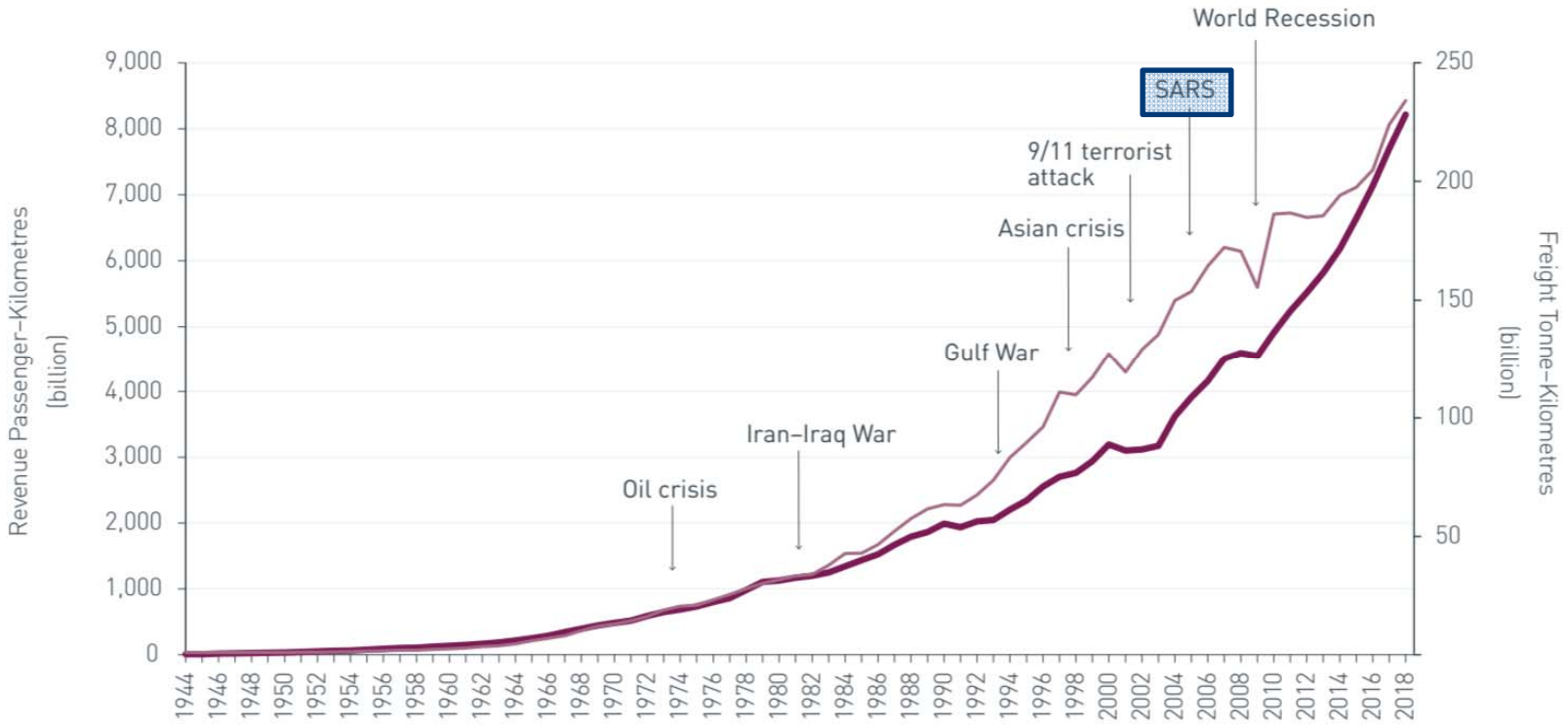
- Overall reduction of **45 to 56% of seats offered by airlines**
- Overall reduction of **486 to 593 million passengers**
- Approx. **USD 108 to 132 billion potential loss** of gross operating revenues of airlines

Biggest overall impact is expected in Europe and Asia/Pacific, followed by North America and Middle East.

If the current-level of contraction continues to September 2020, airlines would lose over USD 35 billion gross operating revenues every month in the 3rd quarter 2020, hitting summer travel peak season, especially in Europe and North America.

Situation Overview

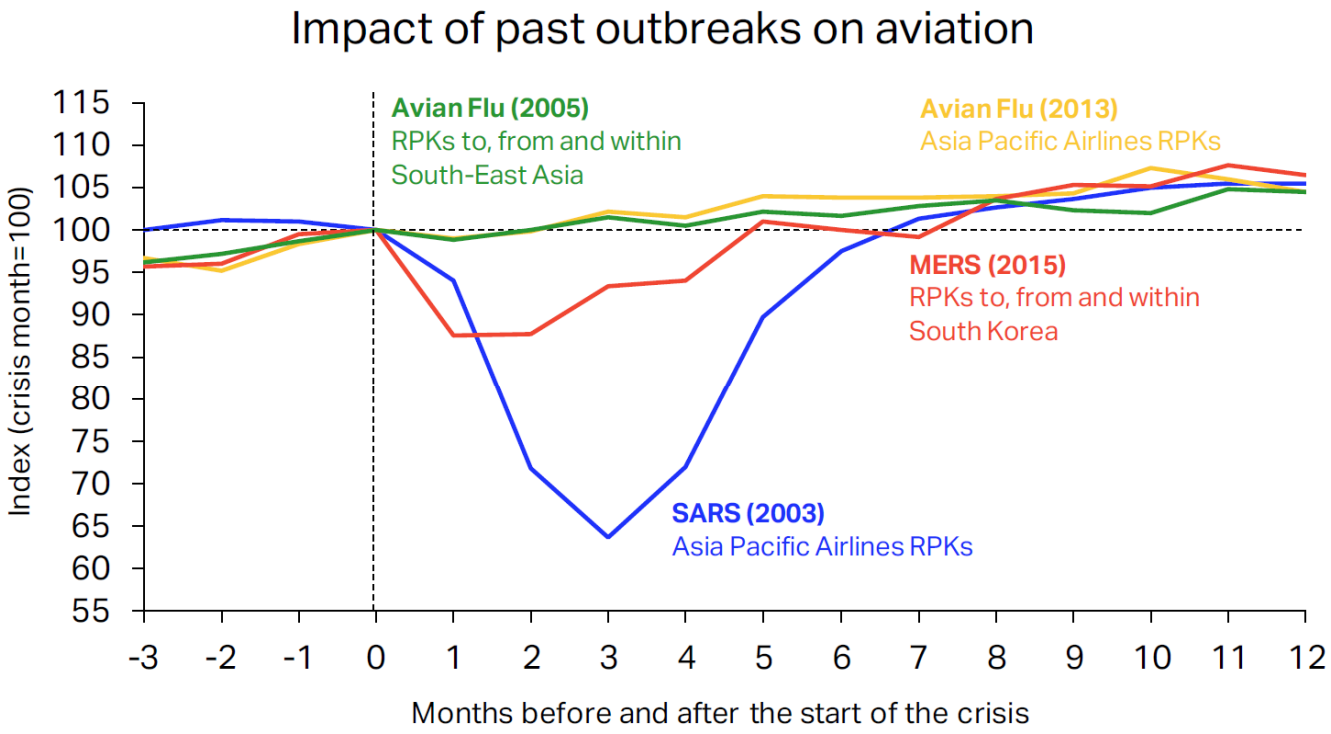
Air traffic has been vulnerable to external factors including disease outbreaks



Note: Total (international and domestic) scheduled services

Source: ICAO Annual Report of the Council

Previous outbreaks/pandemics had a V-shaped impact on aviation

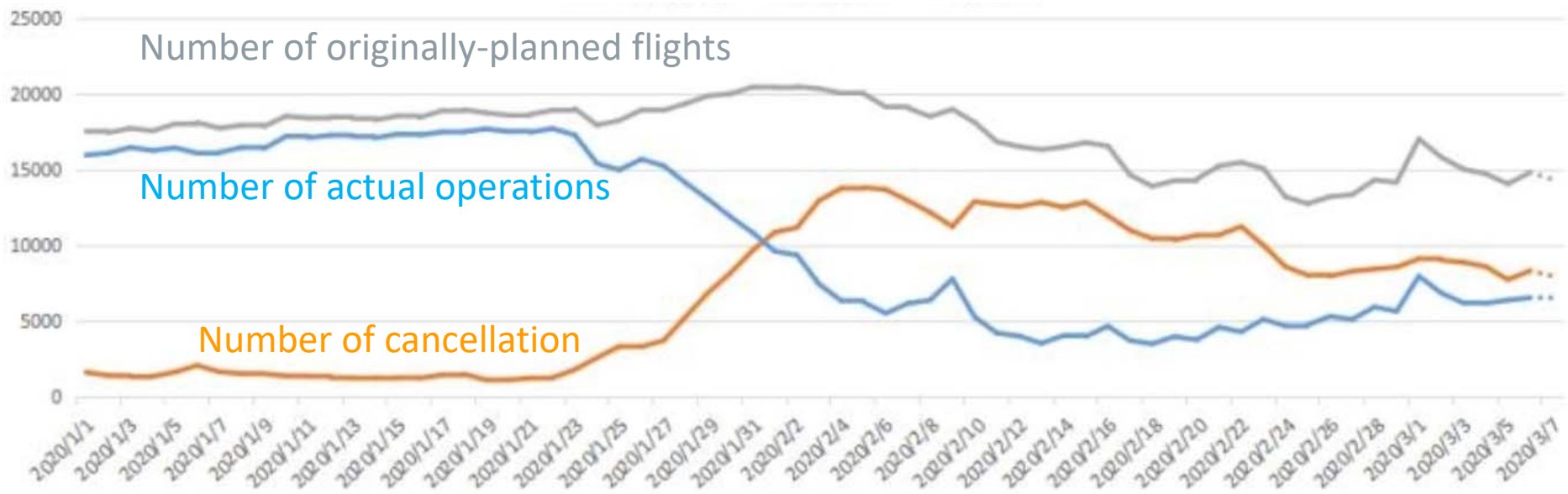


Source: IATA Economics

History shows that SARS has the most serious impact on traffic. At the height of the outbreak (May 2003), monthly RPKs of Asia-Pacific airlines were 35% lower than their pre-crisis levels. Overall in 2003, Asia-Pacific airlines lost **8% of annual RPKs and $6 billion of revenues**.

Source: IATA Economics' Chart of the Week (24 January 2020)

COVID-19 outbreak has impacted air traffic for China starting from late January 2020



Note: The above includes a) international from mainland China, Hong Kong SAR of China, Macao SAR of China, Taiwan, Province of China; b) domestic within mainland China, and c) regional between mainland China and Hong Kong SAR, Macao SAR and Taiwan Province

Source: CARNOC.com/VariFlight (retrieved on 9 March 2020)

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A surge of COVID-19 confirmed cases occurred in several States by late February 2020

January 2020	International passenger seat capacity	
Country/Territory	Capacity change from originally-planned	
Russian Federation	- 89,020	-2%
Turkey	- 48,383	-1%
Morocco	- 33,828	-2%
Iraq	- 29,326	-4%
United Arab Emirates	- 25,639	0%
South Africa	- 21,328	-1%
United Kingdom	- 19,017	0%
France	- 17,126	0%
Poland	- 16,736	0%
Romania	- 15,141	-1%
United States	- 14,323	0%
India	- 9,710	0%
Bulgaria	- 9,636	-1%
Bahamas	- 9,588	-2%
Malaysia	- 9,472	0%
Denmark	- 9,058	0%
Indonesia	- 7,554	0%
Bahrain	- 7,123	-1%
Switzerland	- 6,615	0%
Lebanon	- 6,462	-1%
Uzbekistan	- 6,419	-1%
Viet Nam	- 6,129	0%
Georgia	- 5,630	-1%
Jordan	- 5,587	-1%
Czechia	- 5,178	0%
Algeria	- 5,168	-1%
Canada	- 5,087	-2%
Israel	- 5,036	0%
Tunisia	- 4,762	-1%
Niger	- 4,756	-5%

February 2020	International passenger seat capacity	
Country/Territory	Capacity change from originally-planned	
China	- 10,532,219	-61%
Hong Kong SAR of China (CN)	- 2,363,320	-36%
Republic of Korea	- 1,717,147	-19%
Japan	- 1,592,429	-15%
Thailand	- 1,452,478	-15%
Taiwan, Province of China (CN)	- 1,446,686	-23%
Singapore	- 807,608	-12%
Viet Nam	- 731,936	-16%
Macao SAR of China (CN)	- 721,489	-64%
Philippines	- 646,104	-18%
United States	- 620,296	-3%
Malaysia	- 448,172	-8%
Indonesia	- 426,102	-10%
Russian Federation	- 317,890	-5%
Cambodia	- 307,968	-4%
Turkey	- 277,868	-21%
Italy	- 268,846	-3%
United Arab Emirates	- 253,548	-2%
Australia	- 241,284	-5%
United Kingdom	- 188,864	-1%
Iran Islamic Republic of	- 169,782	-18%
France	- 157,998	-1%
Myanmar	- 147,487	-21%
Germany	- 145,561	-1%
India	- 116,823	-2%
Morocco	- 108,186	-5%
Qatar	- 99,338	-2%
Canada	- 96,231	-1%
Lao People's Democratic Republic	- 71,910	-21%
Finland	- 71,413	-4%

In February 2020, international passenger capacity **reduced by 13%**, mainly related to traffic from/to States experiencing an early outbreak and countries deeply interconnected to China.

- State/Territory with 100 to 999 confirmed cases*
- State/Territory with 1,000 to 9,999 confirmed cases*
- State/Territory with 10,000 to 49,999 confirmed cases*
- State/Territory with 50,000 or more confirmed cases*

*: Coronavirus Disease 2019 (COVID-19) Situation Report by WHO (29 February 2020)

Source: OAG scheduled data adjusted by ICAO estimates

COVID-19 Pandemic was declared and accelerating in March 2020

March 2020 International Passenger Capacity

Country/Territory		Capacity change from originally-planned	
China	-	14,841,792	-82%
Italy	-	6,860,837	-60%
Republic of Korea	-	6,536,917	-70%
Japan	-	5,837,894	-51%
Germany	-	5,771,162	-31%
Hong Kong SAR of China (CN)	-	5,352,855	-77%
United Kingdom	-	4,965,296	-22%
United States	-	4,950,969	-19%
Thailand	-	4,587,421	-46%
Taiwan, Province of China (CN)	-	4,074,431	-62%
Spain	-	3,792,140	-26%
United Arab Emirates	-	3,400,833	-26%
Singapore	-	3,297,434	-45%
France	-	3,216,482	-25%
Turkey	-	2,879,271	-35%
Viet Nam	-	2,599,336	-55%
Malaysia	-	2,500,355	-42%
India	-	2,077,578	-29%
Saudi Arabia	-	1,747,385	-31%
Switzerland	-	1,691,017	-28%

Country/Territory		Capacity change from originally-planned	
Philippines	-	1,669,456	-45%
Indonesia	-	1,466,518	-34%
Netherlands	-	1,292,472	-17%
Canada	-	1,218,383	-16%
Austria	-	1,200,864	-30%
Russian Federation	-	1,177,704	-19%
Australia	-	1,119,345	-25%
Portugal	-	1,118,941	-26%
Belgium	-	1,060,572	-31%
Qatar	-	1,041,439	-21%
Denmark	-	980,211	-28%
Israel	-	972,061	-44%
Poland	-	967,520	-24%
Macao SAR of China (CN)	-	954,453	-80%
Egypt	-	818,043	-28%
Morocco	-	762,145	-31%
Sweden	-	761,425	-24%
Ireland	-	733,678	-21%
Greece	-	635,039	-34%
Czechia	-	610,048	-37%

In March 2020, international passenger capacity **reduced by 49%** (estimated), with significant reduction not only in States experiencing an early outbreak but also worldwide.

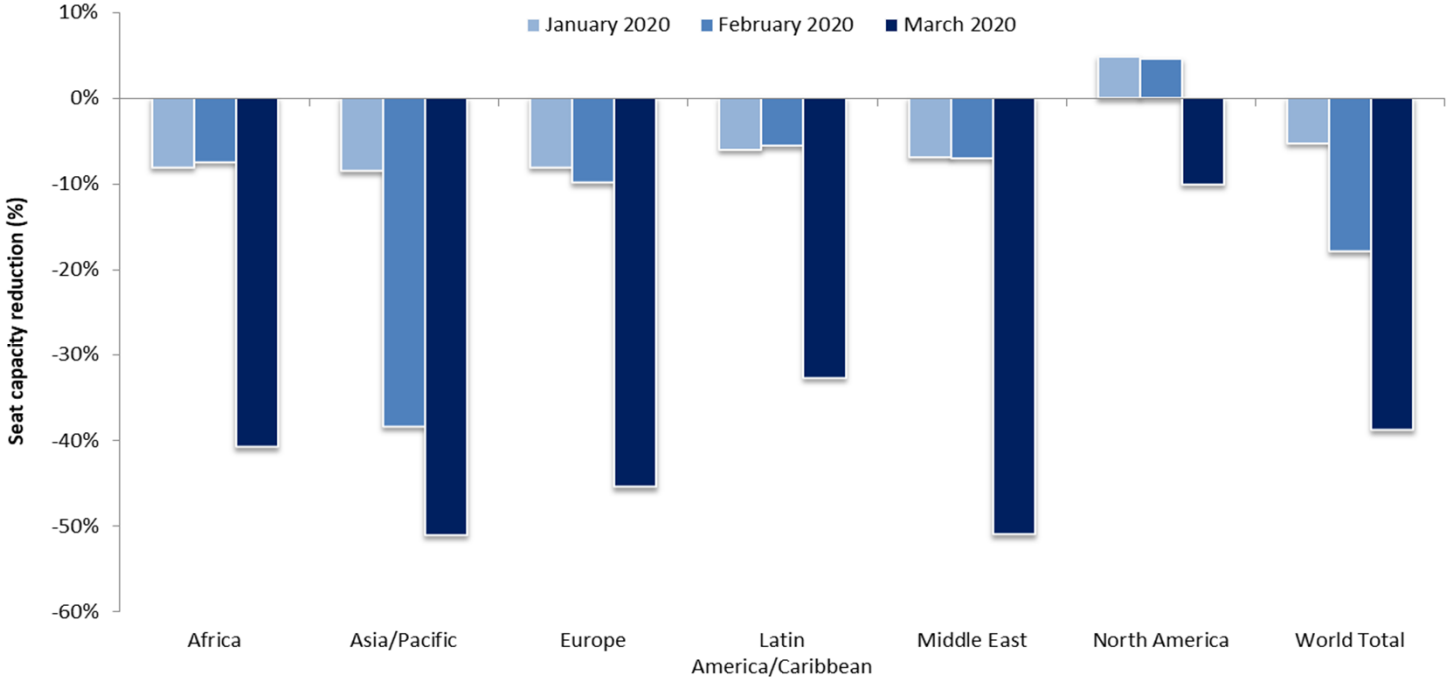
- State/Territory with 100 to 999 confirmed cases*
- State/Territory with 1,000 to 9,999 confirmed cases*
- State/Territory with 10,000 to 49,999 confirmed cases*
- State/Territory with 50,000 or more confirmed cases*

*: Coronavirus Disease 2019 (COVID-19) Situation Report by WHO (31 March 2020)

Source: OAG scheduled data adjusted by ICAO estimates

Air traffic reduction no longer limited to initial outbreak countries

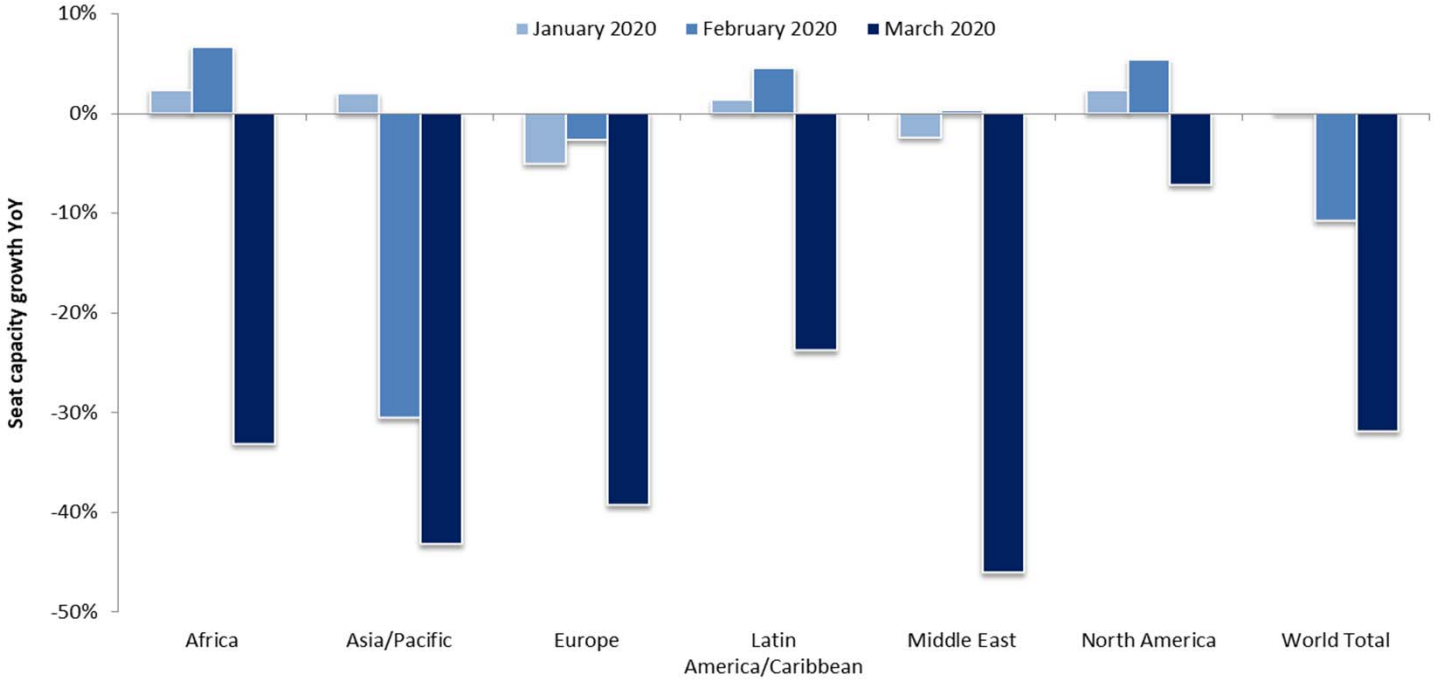
Monthly seat capacity change compare to originally-planned by region (total international and domestic)



Source: ICAO ADS-B operation data

Air traffic reduction no longer limited to initial outbreak countries (2)

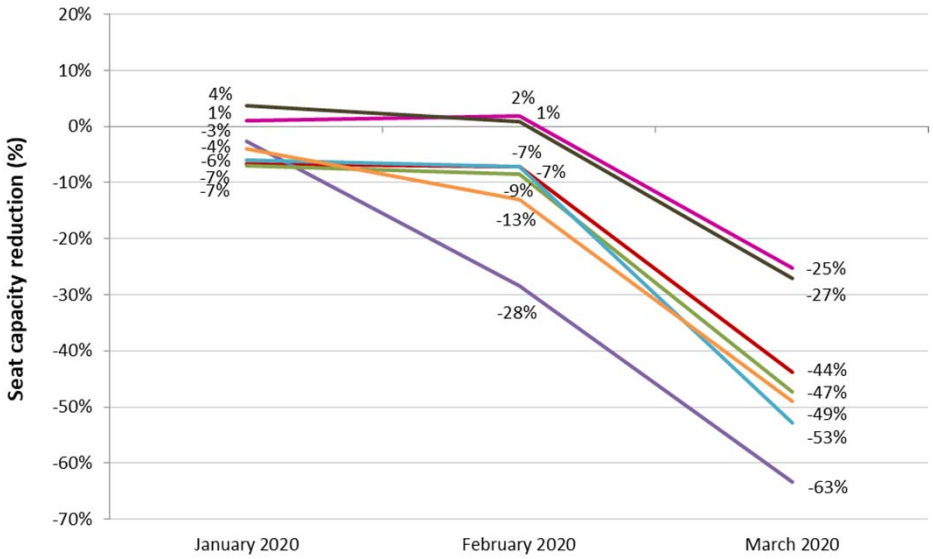
Monthly seat capacity change compared to 2019 by region (total international and domestic)



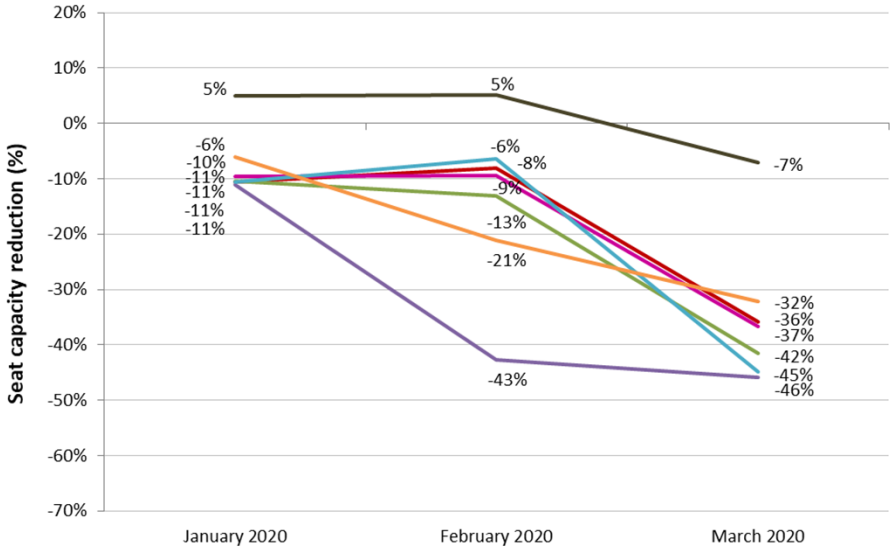
Source: ICAO ADS-B operation data

Not only international but also domestic air transport has been impacted significantly

Monthly seat capacity change compared to originally-planned by region (international)



Monthly seat capacity change compared to originally-planned by region (domestic)

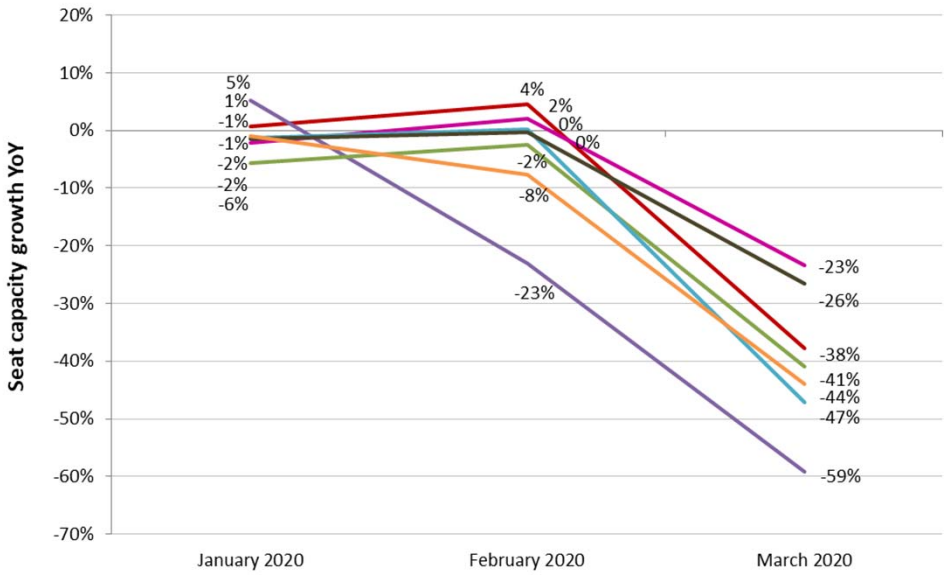


Africa | Asia/Pacific | Europe | Latin America/Caribbean | Middle East | North America | World Total

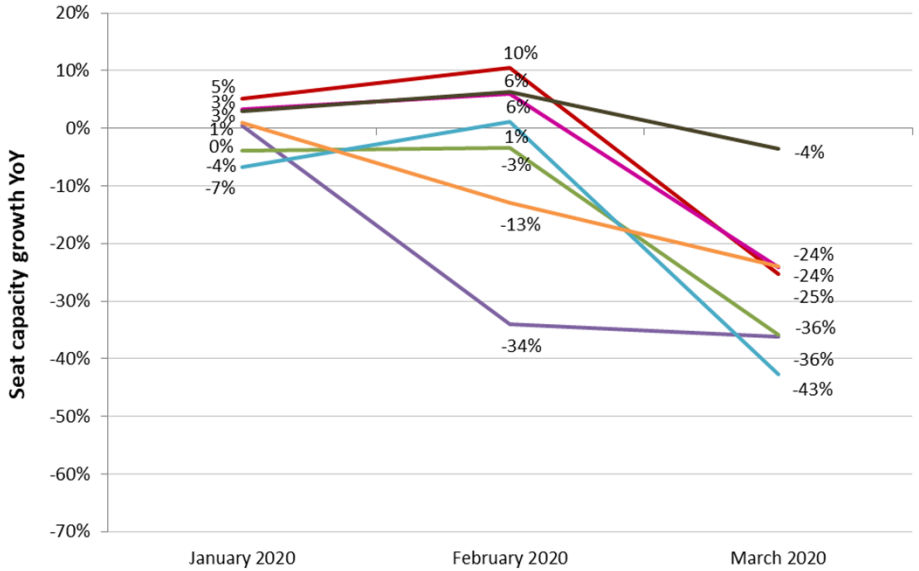
Source: ICAO ADS-B operation data

Not only international but also domestic air transport has been impacted significantly (2)

Monthly seat capacity change compared to 2019 by region (international)



Monthly seat capacity change compared to 2019 by region (domestic)



Africa | Asia/Pacific | Europe | Latin America/Caribbean | Middle East | North America | World Total

Source: ICAO ADS-B operation data

The world reached 1 million confirmed COVID-19 cases in April 2020

April 2020 International Passenger Capacity

Country/Territory		Capacity change from originally-planned	
United States	-	21,557,584	-83%
United Kingdom	-	21,235,923	-86%
Germany	-	18,224,155	-87%
China	-	16,736,861	-95%
Spain	-	16,325,328	-90%
Italy	-	12,773,521	-94%
France	-	12,665,023	-86%
United Arab Emirates	-	10,459,077	-84%
Japan	-	8,831,422	-82%
Turkey	-	8,382,426	-89%
Thailand	-	7,760,359	-89%
Republic of Korea	-	7,693,465	-86%
Hong Kong SAR of China (CN)	-	6,865,671	-93%
Canada	-	5,992,516	-86%
Netherlands	-	5,941,882	-76%
Switzerland	-	5,570,641	-89%
Taiwan, Province of China (CN)	-	5,525,036	-86%
Singapore	-	5,381,950	-76%
India	-	5,370,956	-76%
Russian Federation	-	5,255,365	-79%

Country/Territory		Capacity change from originally-planned	
Portugal	-	4,754,437	-91%
Malaysia	-	4,414,246	-75%
Australia	-	4,040,547	-90%
Mexico	-	3,850,152	-73%
Austria	-	3,619,644	-87%
Viet Nam	-	3,616,033	-85%
Qatar	-	3,481,091	-74%
Saudi Arabia	-	3,479,000	-64%
Indonesia	-	3,331,153	-78%
Ireland	-	2,965,760	-76%
Belgium	-	2,867,742	-75%
Greece	-	2,840,328	-87%
Denmark	-	2,619,276	-72%
Poland	-	2,607,927	-59%
Philippines	-	2,291,853	-66%
Sweden	-	2,171,121	-69%
Brazil	-	2,151,062	-90%
Israel	-	2,086,074	-86%
Morocco	-	2,008,158	-82%
Norway	-	1,974,693	-71%

In April 2020, international passenger capacity so far experienced by **unprecedented 85% reduction** (estimated)

- State/Territory with 100 to 999 confirmed cases*
- State/Territory with 1,000 to 9,999 confirmed cases*
- State/Territory with 10,000 to 49,999 confirmed cases*
- State/Territory with 50,000 or more confirmed cases*

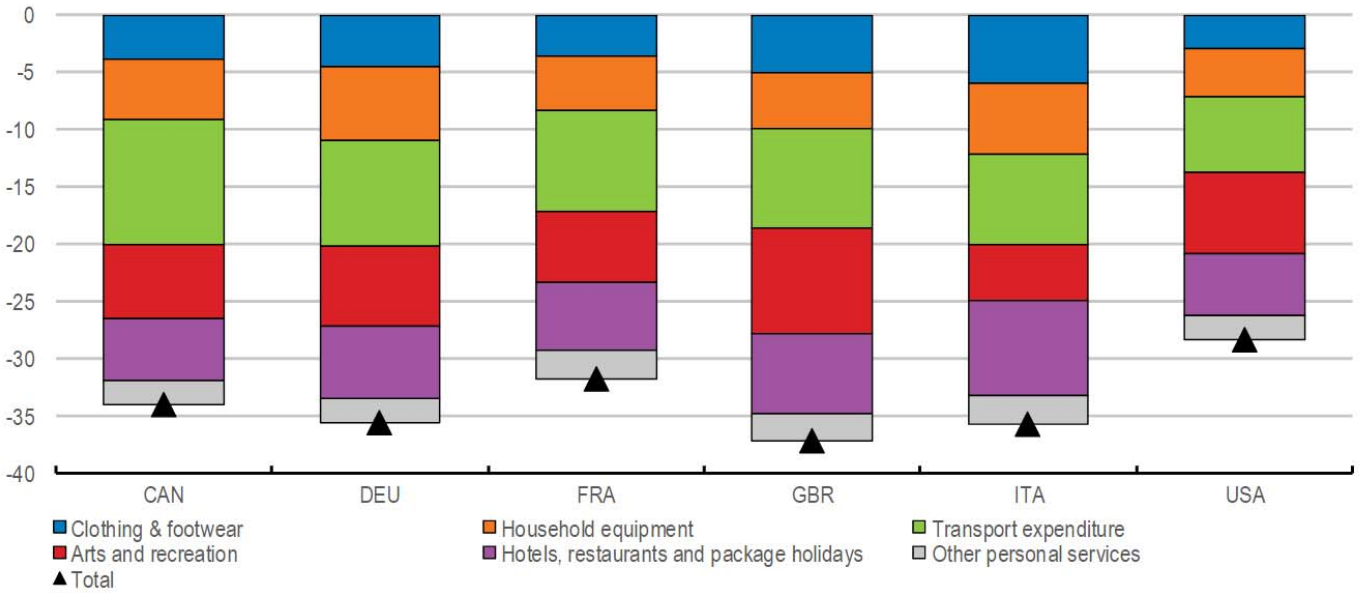
*: Coronavirus Disease 2019 (COVID-19) Situation Report by WHO (6 April 2020)

Source: OAG scheduled data adjusted by ICAO estimates

Sharp decrease in consumers' expenditures for air travel due to containment measures

The potential initial impact of partial or complete shutdowns on private consumption in selected G7 economies

Per cent of total consumers' expenditure



Source: OECD Evaluating the Initial Impact of Containment Measures (27 March 2020)

Scenario Analysis of Economic Impact on Passager Traffic

Figures and estimates herein is preliminary and subject to substantial changes.
The analysis will be updated with the situation evolving and more information available.

COVID-19 impact scenarios: Indicative V- and U-shaped paths

Three scenarios to measure the possible impact of COVID-19 outbreak on scheduled **international passenger** traffic worldwide for **first half of the year 2020 (1Q and 2Q 2020)**:

- ❑ **Baseline:** hypothetical situation without COVID-19 outbreak, i.e. originally-planned
- ❑ **Scenario 1:** V-shaped path, quick recovery from May 2020
- ❑ **Scenario 2:** U-shaped path, prolonged contraction to June 2020

Assumptions used for each scenario are summarized in **Appendix**

- Given a rapidly changing environment, Scenarios 1 and 2 are merely indicative of two possible paths out of many. The exact path will depend upon various factors, inter alia, duration and magnitude of the outbreak and containment measures, availability of government assistance, consumers' confidence, and economic conditions.
- Scenarios 1 and 2 are differentiated in terms of **supply (output)** and **demand (spending)** conditions, mainly, a) the timing and scale of airline capacity decline and recovery, and b) the degree of consumers' confidence for air travel that can be translated into demand or load factor.

Scenario assumptions

Assumptions (Global)	Baseline (Originally-planned)		Scenario 1 (V-shaped)		Scenario 2 (U-shaped)	
	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor
January 2020	January 2019 results by route group	January 2019 results by route group	actual	January 2020 results by route group	actual	January 2020 results by route group
February 2020	February 2019 results by route group	February 2019 results by route group	actual	February 2020 results by route group	actual	February 2020 results by route group
March 2020	0%	March 2019 results by route group	actual	15 to 25 percentage points lower than Baseline	actual	25 percentage points lower than Baseline
April 2020	0%	April 2019 results by route group	airlines' schedules filed in early April minus 1 to 5 percentage points, subject to update by actual	15 percentage points lower than Baseline	airlines' schedules filed in early April minus 1 to 5 percentage points, subject to update by actual	25 percentage points lower than Baseline
May 2020	0%	May 2019 results by route group	60 to 70 percentage points lower than Baseline, subject to update by actual	10 percentage points lower than Baseline	75 to 85 percentage points lower than Baseline, subject to update by actual	25 percentage points lower than Baseline
June 2020	0%	June 2019 results by route group	30 to 40 percentage points lower than Baseline, subject to update by actual	10 percentage points lower than Baseline	75 to 85 percentage points lower than Baseline, subject to update by actual	25 percentage points lower than Baseline

Estimated results in brief

The preliminary estimates indicate the impact in terms of **scheduled international passenger traffic during first half 2020** compared **to Baseline (originally-planned)**:

Scenario 1 (V-shaped path)

- Overall reduction of **45% of seats offered by airlines**
- Overall reduction of **486 million passengers**
- Approx. **USD 108 billion potential loss** of gross operating revenues of airlines

Scenario 2 (U-shaped path)

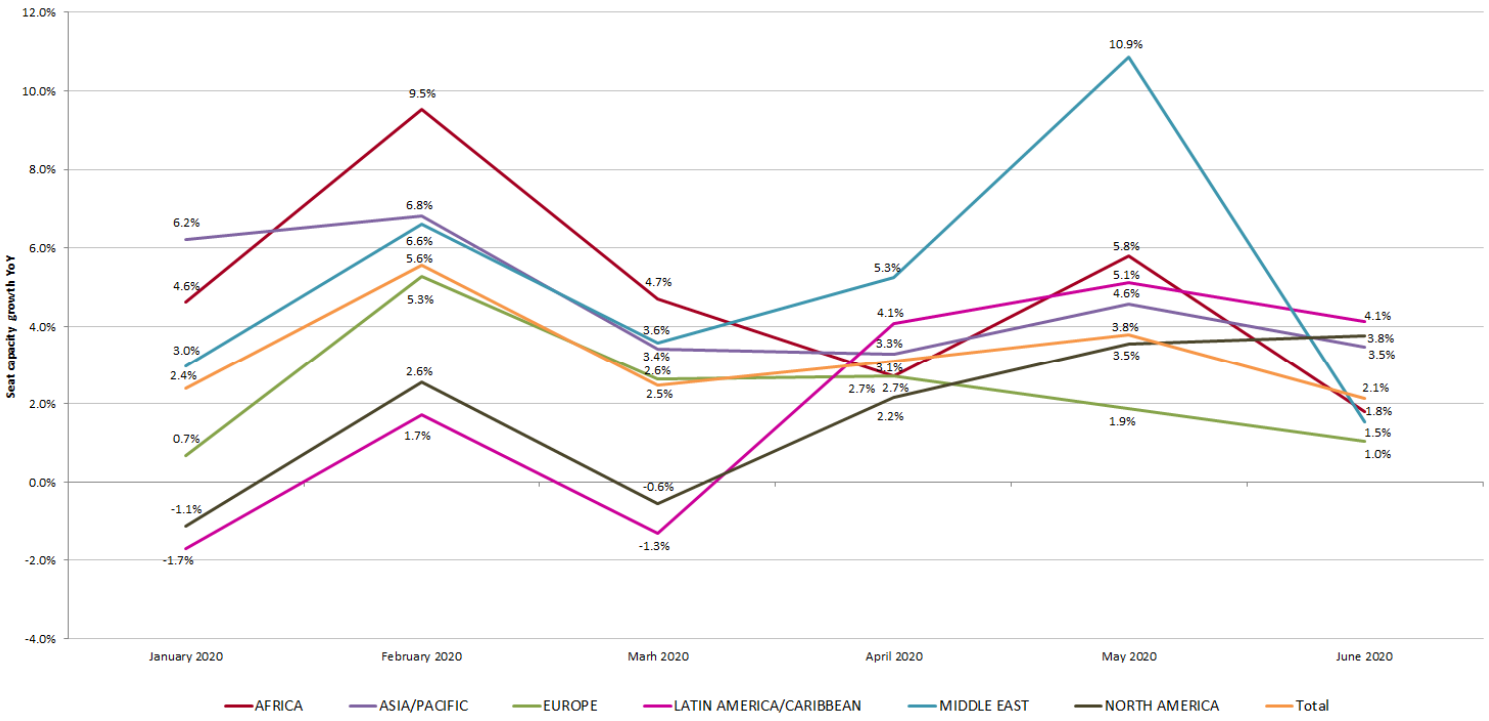
- Overall reduction of **56% of seats offered by airlines**
- Overall reduction of **593 million passengers**
- Approx. **USD 132 billion potential loss** of gross operating revenues of airlines

Biggest overall impact in Europe and Asia/Pacific, followed by North America and Middle East

	Scenario 1 (V-shaped) compared to Baseline (originally-planned) for first half 2020			Scenario 2 (U-shaped) compared to Baseline (originally-planned) for first half 2020		
Region	Seat Capacity (%)	Passenger number (million)	Gross passenger revenue (USD, billion)	Seat Capacity (%)	Passenger number (million)	Gross passenger revenue (USD, billion)
AFRICA	-37.7%	-16.92	-5.26	-48.1%	-21.37	-6.78
ASIA/PACIFIC	-50.3%	-150.20	-37.72	-59.7%	-175.18	-43.70
EUROPE	-46.4%	-221.56	-37.71	-58.1%	-273.01	-46.74
LATIN AMERICA/CARIBBEAN	-33.0%	-24.65	-5.97	-42.6%	-32.21	-7.73
MIDDLE EAST	-41.4%	-37.53	-10.02	-51.6%	-45.76	-12.36
NORTH AMERICA	-37.0%	-35.15	-11.42	-47.6%	-45.25	-14.61
Total	**-44.9%**	**-486.00**	**-108.10**	**-55.6%**	**-592.78**	**-131.93**

Source: ICAO estimates

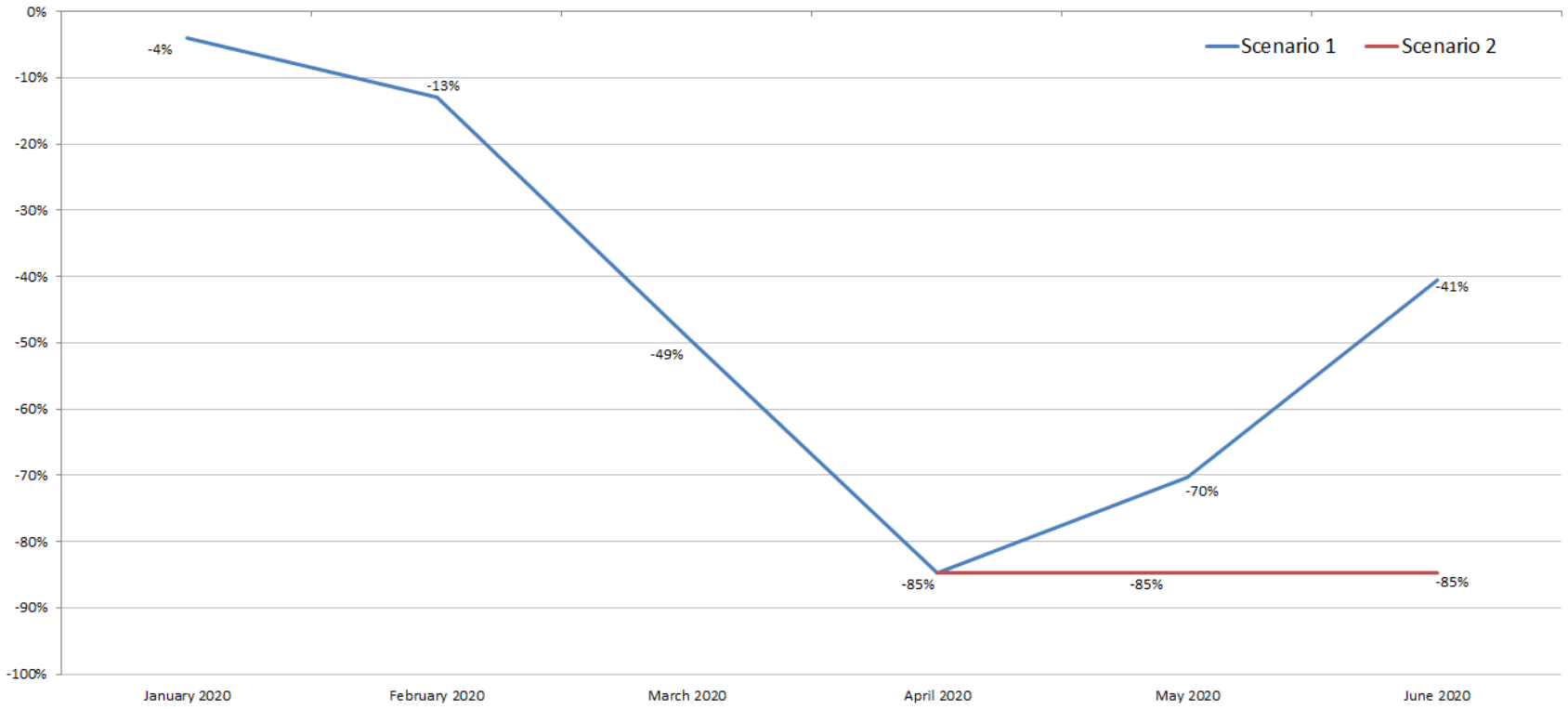
Baseline: 3% seat capacity increase (year-on-year) globally for first half 2020



A total of YoY 3.2% seat capacity increase originally - planned for 1Q 2020 compared to the same period of 2019 (scheduled international passenger set number)

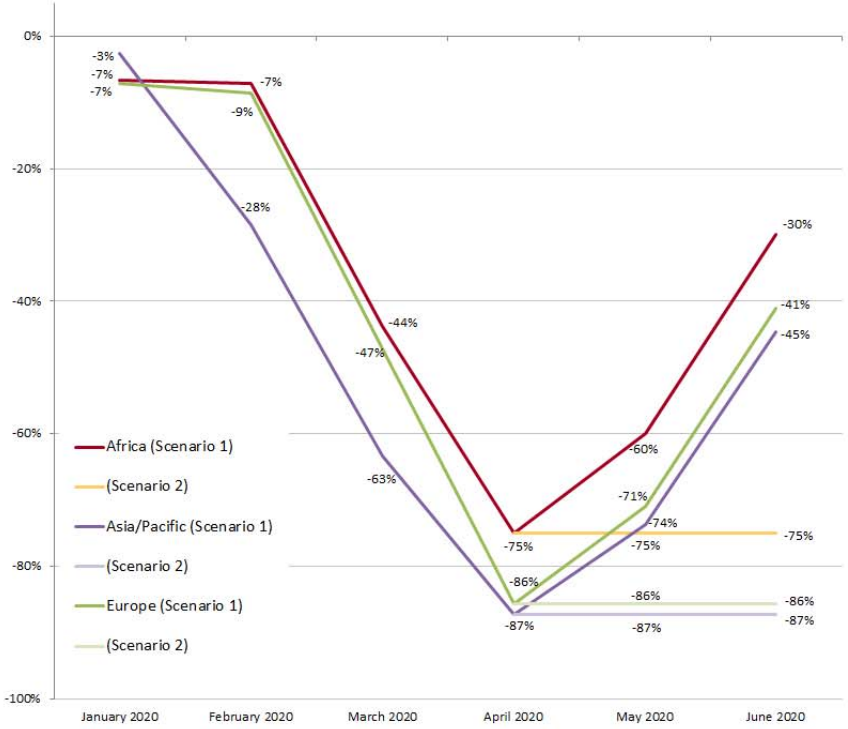
Source: OAG scheduled data and ICAO estimates (Apr – Jun 2020)

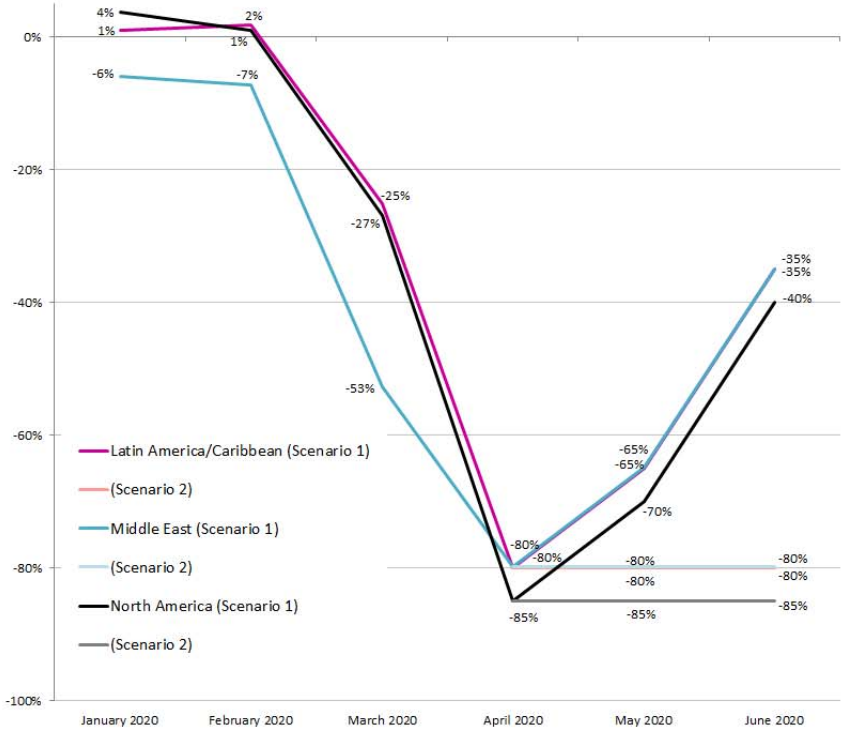
Scenarios 1 & 2 show 45 to 56% seat capacity reduction in first half 2020 from Baseline



Source: ICAO estimates based on OAG, Routes Online and airline websites

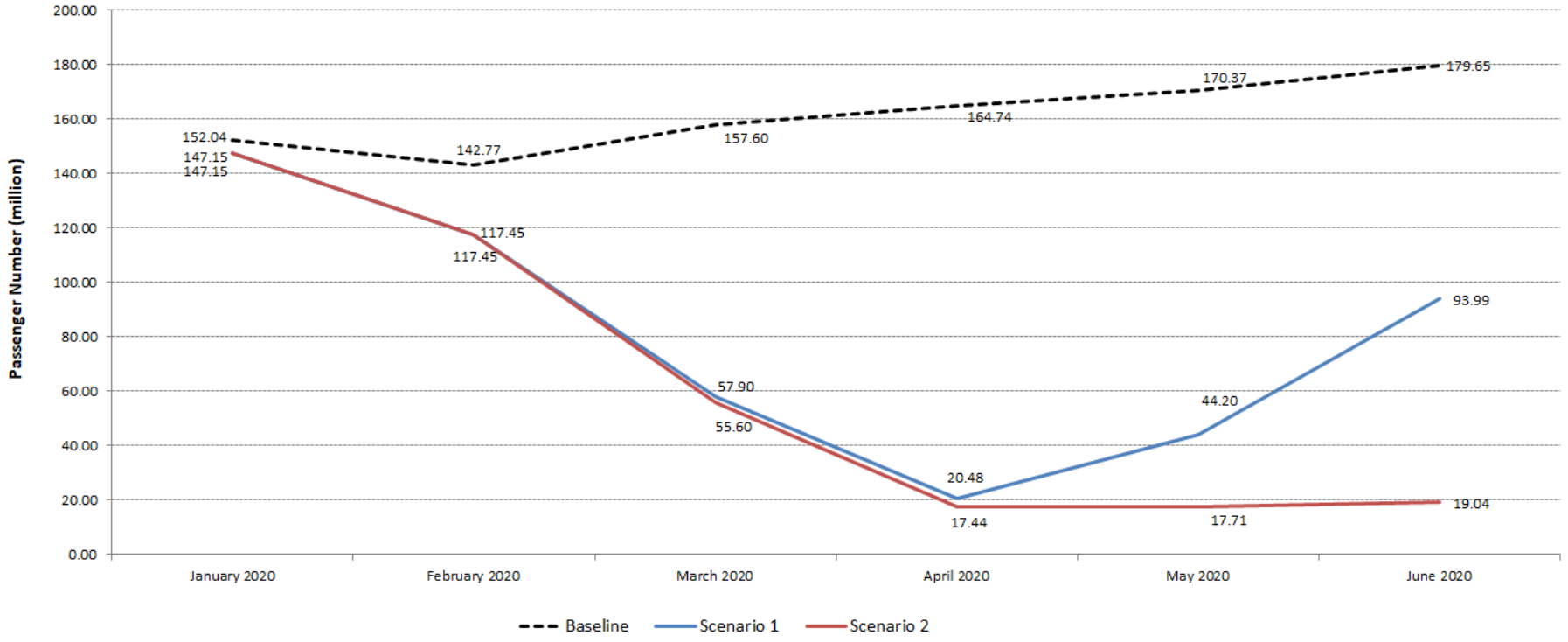
Break-down of seat capacity by region





Source: ICAO estimates based on OAG, Routes Online and airline websites

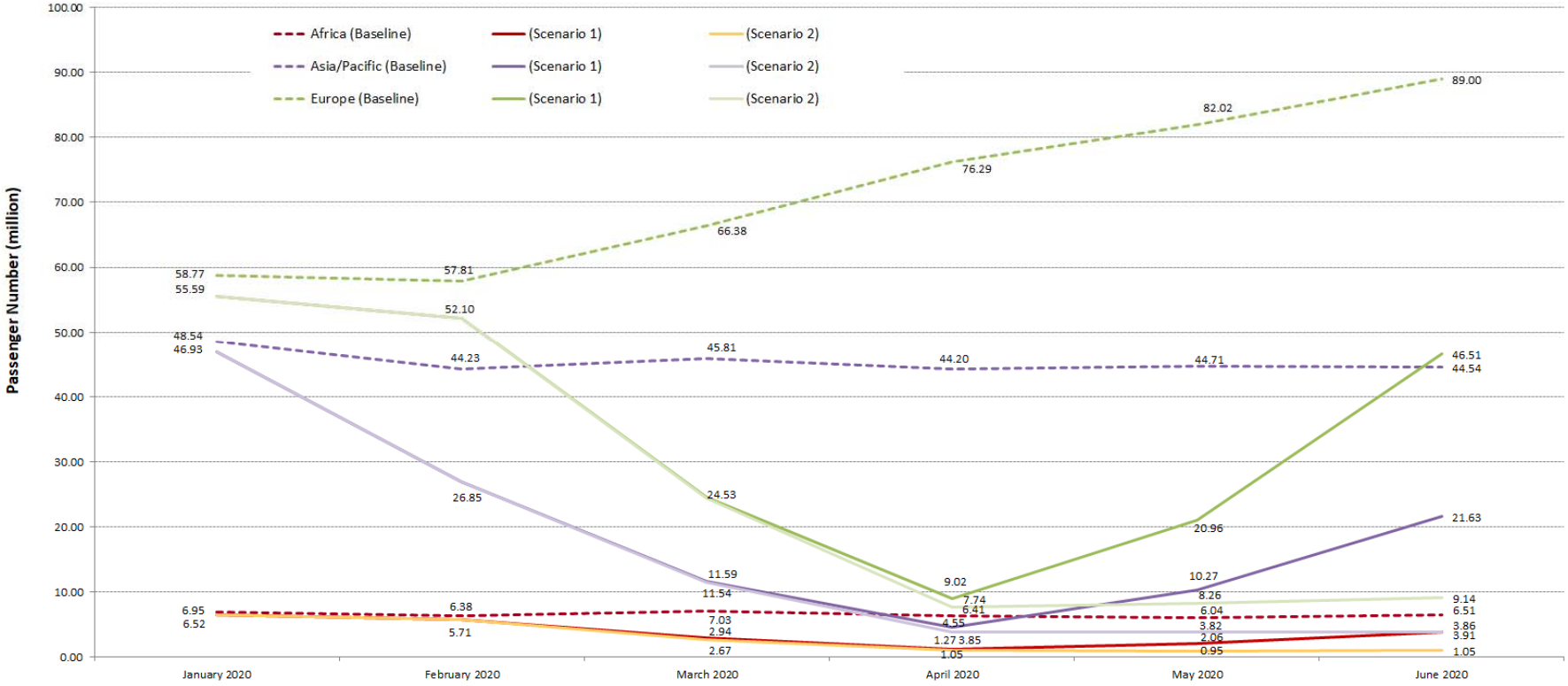
A total of 486 to 593 million passenger reduction in first half 2020 compared to Baseline



Note: Number of international passengers departing from each country and territory, which are aggregated at the regional level to avoid double counting

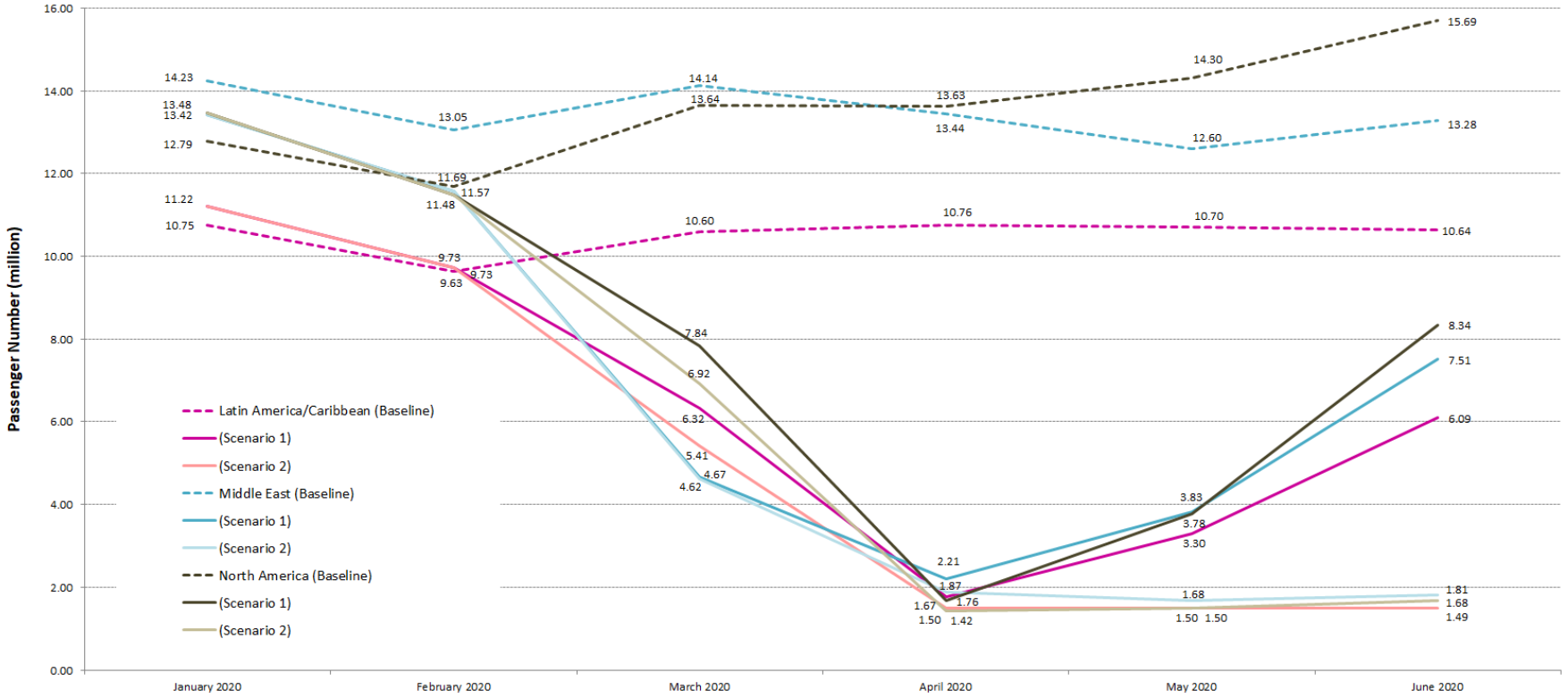
Source: ICAO estimates based on ICAO ADS-B, ICAO-ICM MIDT, ICAO LTF and ICAO Statistical Reporting

Break-down of passenger number by region (1)



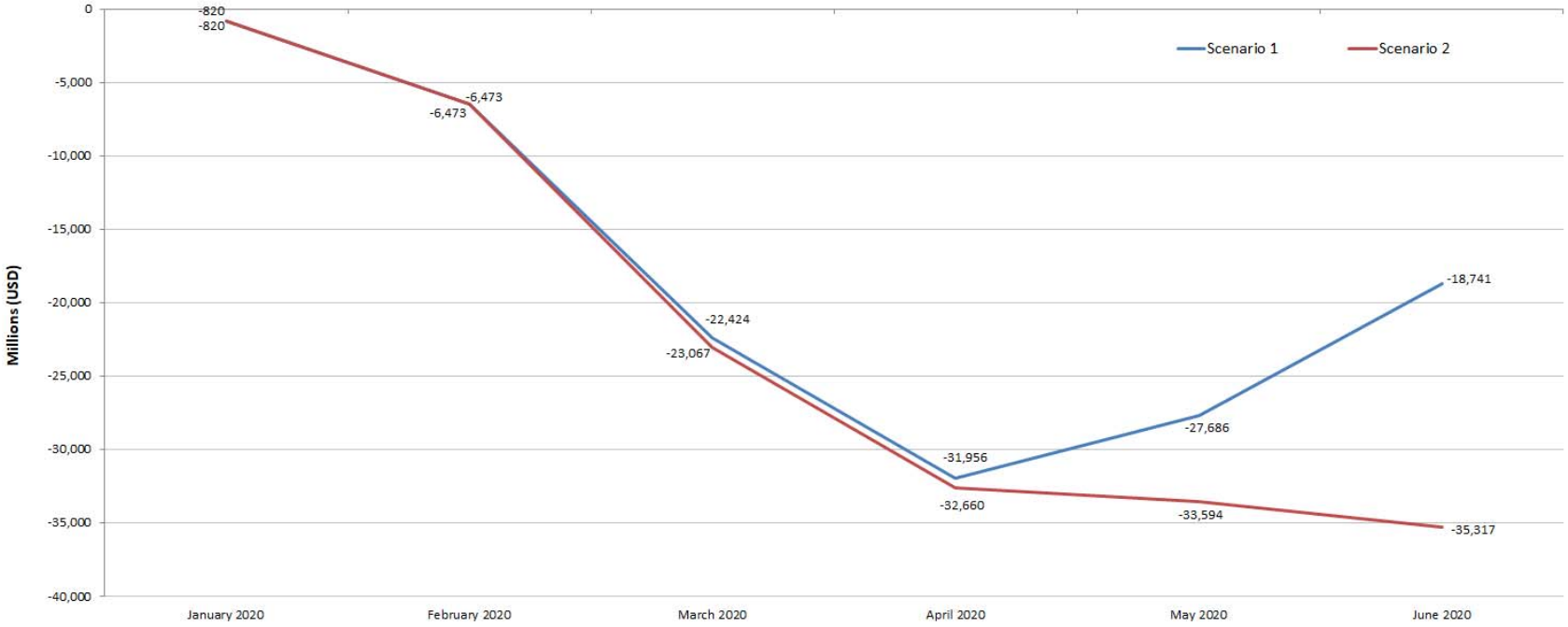
Source: ICAO estimates based on ICAO ADS-B, ICAO-ICM MIDT, ICAO LTF and ICAO Statistical Reporting

Break-down of passenger number by region (2)



Source: ICAO estimates based on ICAO ADS-B, ICAO-ICM MIDT, ICAO LTF and ICAO Statistical Reporting

Approx. USD 108 to 132 billion loss of airline revenues in first half 2020 compared to Baseline



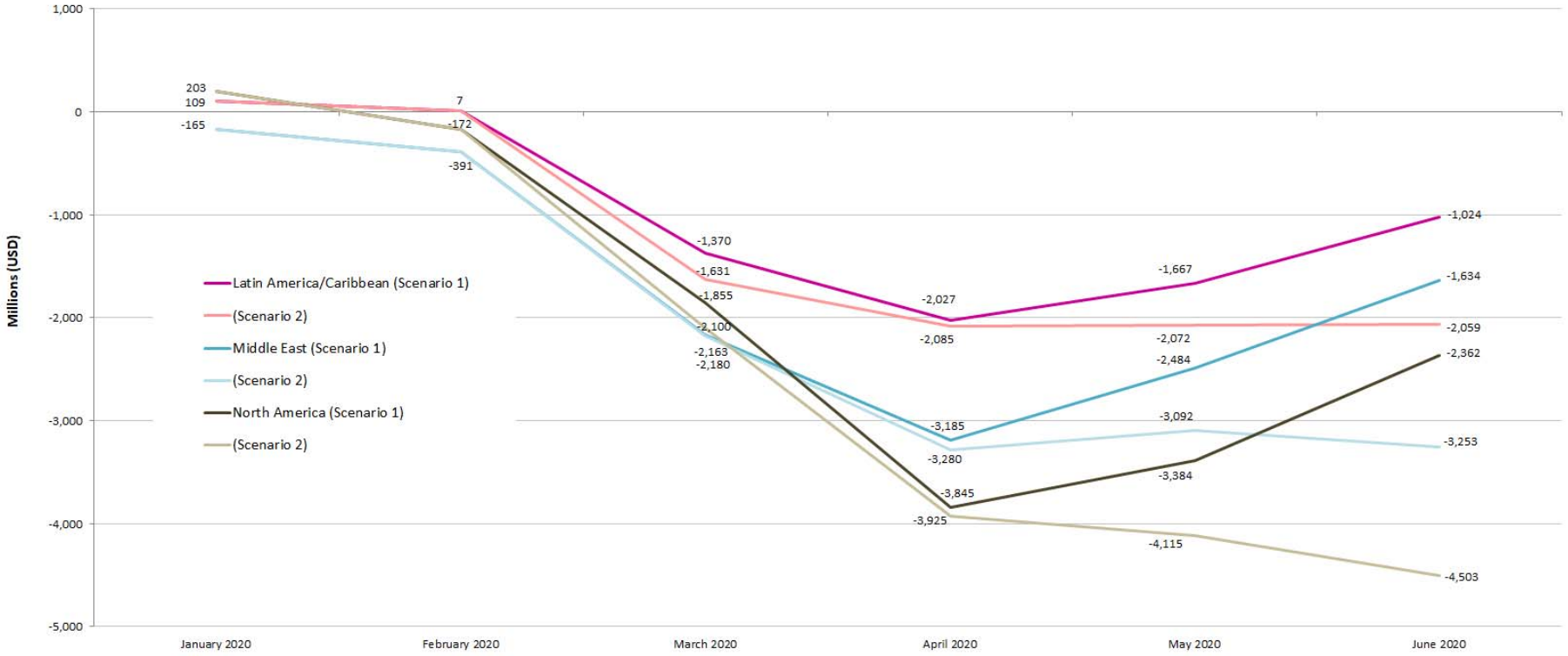
Note: The above revenues are gross passenger operating revenues of all airlines serving international routes from each country and territory, which are aggregated at the regional level (revenues of international routes to each country and territory were removed to avoid double counting.

Source: ICAO estimates based on ICAO ADS-B, ICAO-ICM MIDT, ICAO LTF and ICAO Statistical Reporting

Break-down of revenue reduction by region (1)

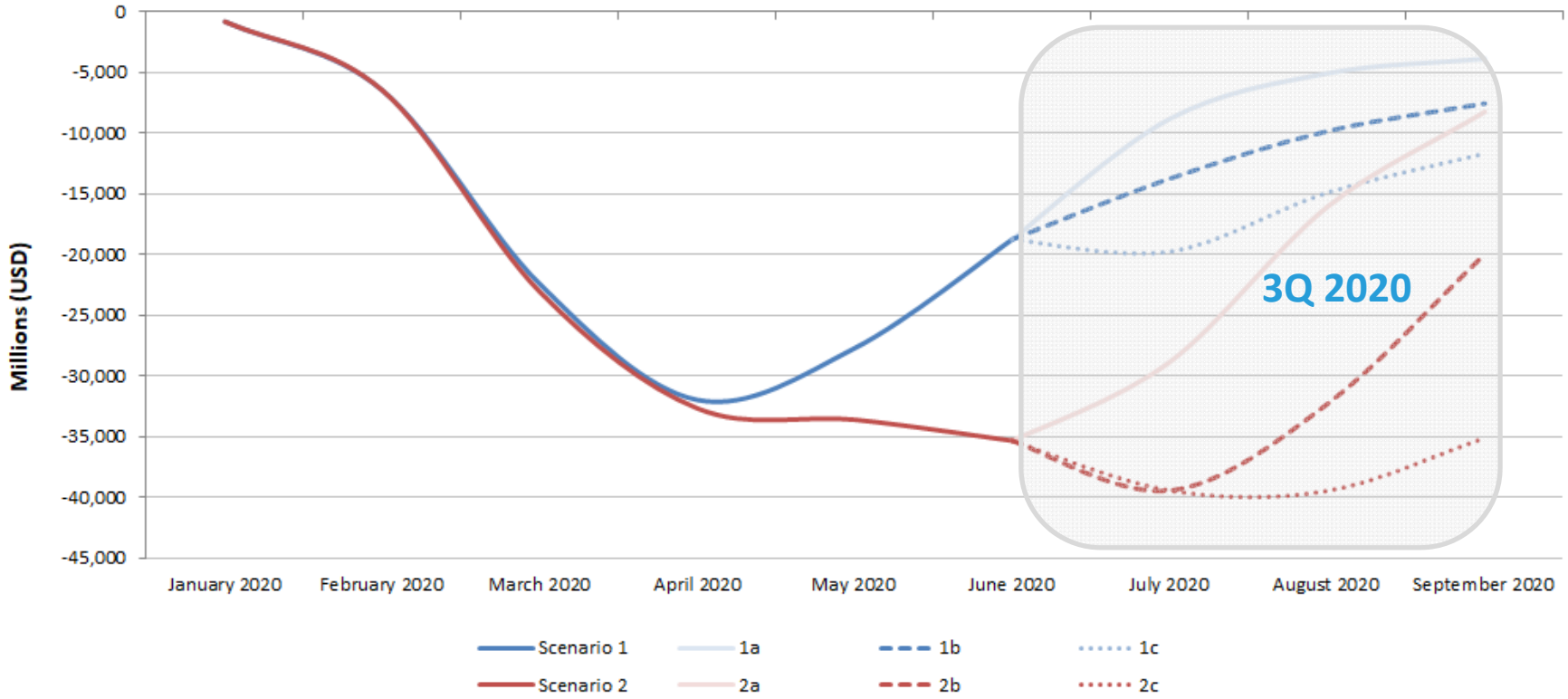
Source: ICAO estimates based on ICAO ADS-B, ICAO-ICM MIDT, ICAO LTF and ICAO Statistical Reporting

Break-down of revenue reduction by region (2)



Source: ICAO estimates based on ICAO ADS-B, ICAO-ICM MIDT, ICAO LTF and ICAO Statistical Reporting

Possible paths for 3Q 2020 although recovery prospects are still very uncertain



Source: ICAO estimates

If Scenario 2 contraction continues to 3Q 2020, over USD 35 billion would be lost every month

The exact path (depth, length and shape) depends on various factors, inter alia, duration and magnitude of the outbreak and containment measures, availability of government assistance, consumers' confidence, and economic conditions.

Scenario	Gross passenger revenue (USD, billion)		Description
	from Jul to Sep (3Q 2020)	Total from Jan to Sep (1Q to 3Q 2020)	
1a	-17.76	**-125.86**	Strong rebound of capacity growth but no full return of consumers' confidence in travel during 3Q 2020
1b	-31.12	**-139.22**	Deceleration of capacity recovery without full return of consumers' confidence in travel during 3Q 2020
1c	-46.33	**-154.43**	A minor dip in July 2020, followed by slow progression of capacity recovery and return of consumers' confidence in travel
2a	-53.15	**-185.08**	Quick recovery from July 2020 by following the recovery path similar to but even faster than 2Q 2020 of Scenario 1 because of summer season
2b	-91.68	**-223.61**	Downturn (lock-down) continuing to July 2020 but quick recovery starting from August 2020 by following the path similar to 2Q 2020 of Scenario 1
2c	-113.98	**-245.91**	Downturn (lock-down) continuing to September 2020, i.e. the same situation as 2Q 2020 and hitting summer travel peak season, especially in Europe and North America

Source: ICAO estimates

Comparison with full year estimates by IATA: 3-month lock-down scenario

The analytical difference between ICAO and IATA estimates:

- **Period**: first half 2020 (ICAO) and full year 2020 (IATA)
- **Traffic**: international only (ICAO) and both international and domestic (IATA)
- **Regional break-down**: by all traffic from/to States in each region (ICAO) and region of airline registration (IATA)
- **Baseline**: originally-planned i.e. 2020 business as usual scenario (ICAO) and 2019 level with 2020 airline schedules (IATA)

Region of airline registration	**Revenue Passenger Kilometres (RPKs)** - both interntional and domestic for full year 2020	**Gross passenger revenue** - both interntional and domestic for full year 2020
	year-on-year % change from 2019 level	USD billion, compared to 2019 level
AFRICA	-32%	-4
ASIA/PACIFIC	-37%	-88
EUROPE	-46%	-76
LATIN AMERICA/CARIBBEAN	-41%	-15
MIDDLE EAST	-39%	-19
NORTH AMERICA	-27%	-50
Total	**-38%**	**-252**

https://www.iata.org/en/publications/economics/

Source: IATA COVID-19 Updated Impact Assessment (dated 24 March 2020)

Impacts on Airports, Cargo and Tourism

Figures and estimates herein are quoted from the analyses of the Airport Council International (ACI), ICAO and the World Tourism Organization (UNWTO).

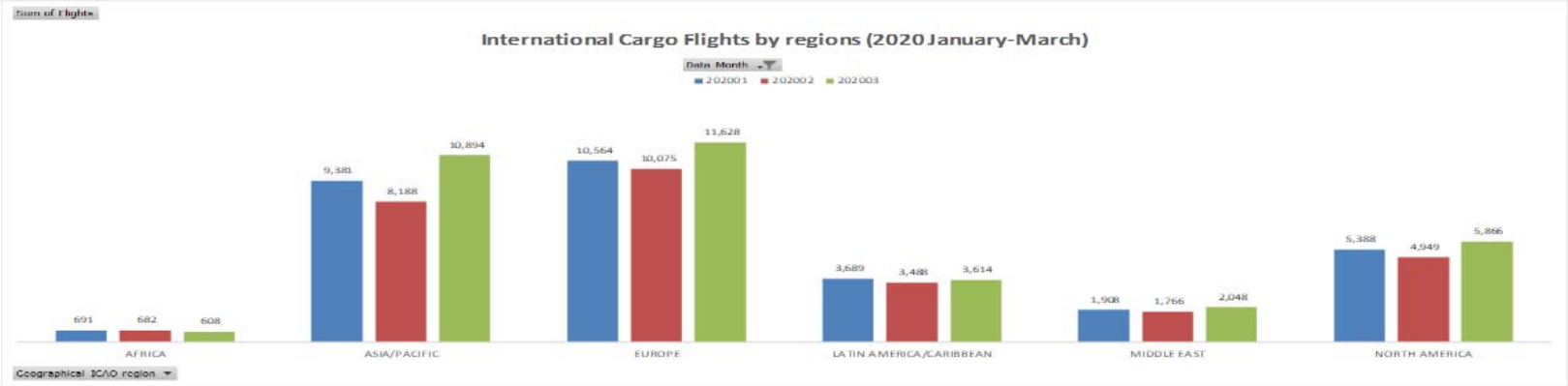
Airport may lose approx. USD 76 billion for full year 2020 (estimated by ACI)

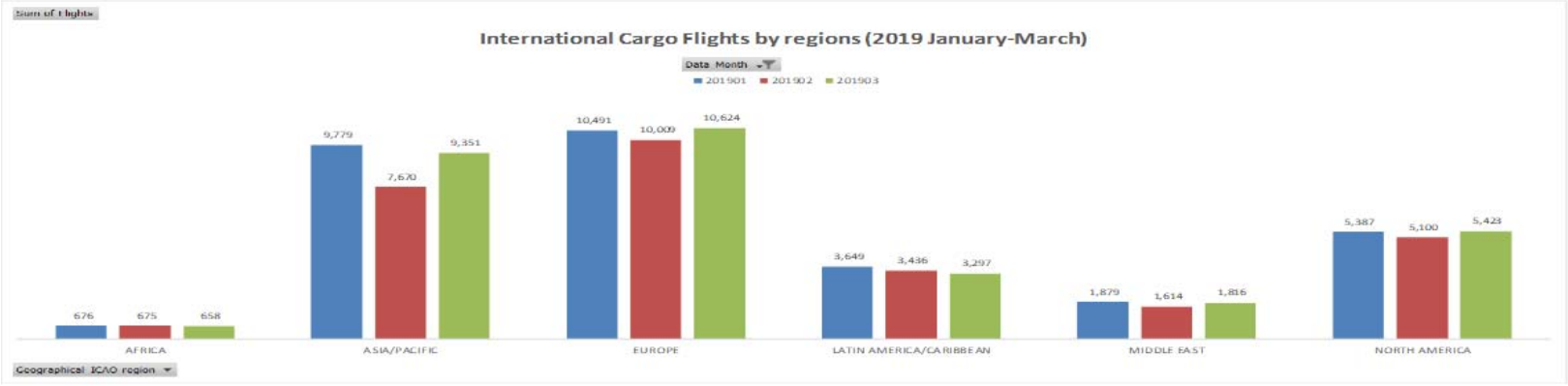
Region	**Passenger number** - both interntional and domestic for full year 2020		**Airport revenue** - both aeronautical and non-aeronautical for full year 2020	
	million and % change from 2020 "business as usual" baseline scenario		USD billion and % change from 2020 "business as usual" baseline scenario	
AFRICA	-77	-32.5%	-1.5	-35%
ASIA/PACIFIC	-1,465	-42.1%	-23.9	-48%
EUROPE	-894	-35.0%	-24.6	-42%
LATIN AMERICA/CARIBBEAN	-244	-34.0%	-4.0	-38%
MIDDLE EAST	-157	-36.5%	-5.7	-43%
NORTH AMERICA	-790	-37.7%	-16.9	-49%
Total	**-3,627**	**-38.1%**	**-76.6**	**-45%**

https://aci.aero/about-aci/priorities/health/covid-19/

Source: The Impact of COVID-19 on the Airport Business (dated 1 April 2020)

Economic impact on air cargo under preparation





Source: The Impact of COVID-19 on the Airport Business (dated 1 April 2020)

Economic impact on air cargo under preparation

Air cargo throughput has decreased a total of 19% in March 2020 due to the withdrawal of passenger aircraft belly capacity while cargo freighters have provided additional, offsetting capacity

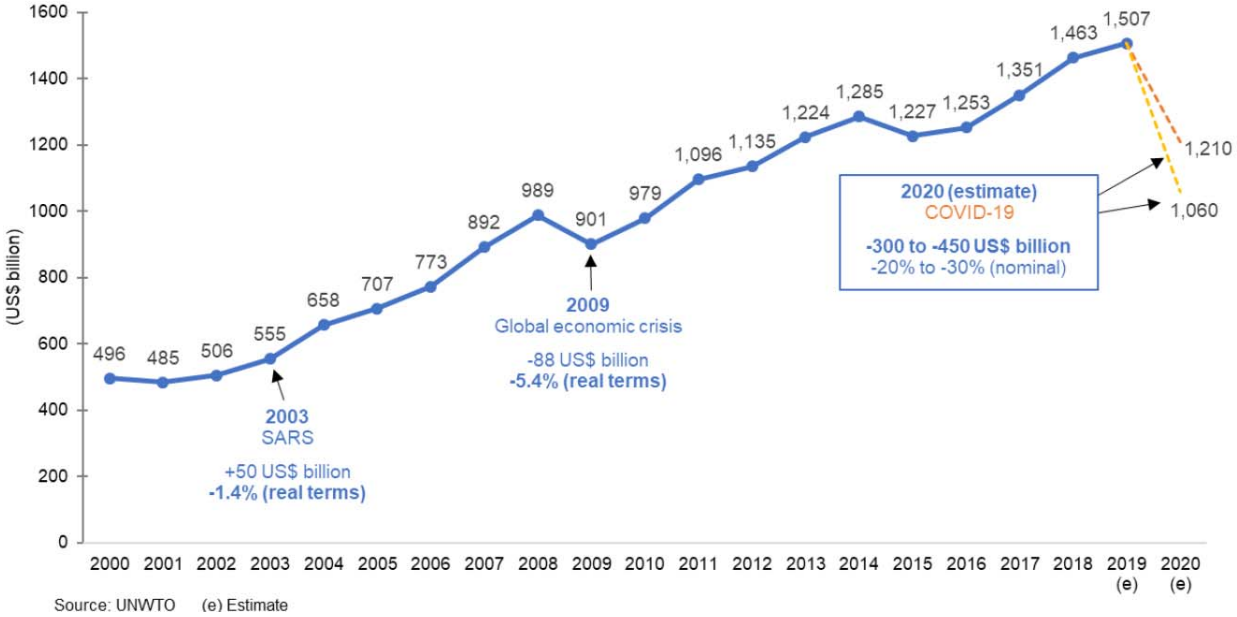
	Millions of Tons Transported		
	March 2019	March 2020	Change
Belly Cargo	3.49	2.40	-31%
Freighter Cargo	1.48	1.61	9%
Net	**4.97**	**4.01**	**-19%**

Preliminary analysis indicates air cargo revenues have dropped 22% from USD 8.3 to 6.5 billion in March 2020 over the same period

Source: ICAO ADS-B data, ICAO Statistical Reporting

A loss of USD 300 to 450 billion in international tourism receipts for 2020 (estimated by UNWTO)

2020 forecast - international tourism receipts, world (US$ billion)



-290 to 440 million	International Tourist Arrivals
5 to 7 years	lost in number of tourists
-300 to 450 US$ bn	Tourism Exports (receipts)
1/3 of 1.5 US$ trillion	lost in Tourism Exports

https://www.unwto.org/news/international-tourism-arrivals-could-fall-in-2020

Source: Impact Assessment of the COVID-19 Outbreak on International Tourism (UNWTO)

Appendix: Route Group Level Analysis

The analysis will be updated and expanded with the situation evolving and more information available.

Estimated Results by route group for Jan/Feb 2020 (compared to originally-planned)

Route Group	DOM/INT	Seat capacity		Scheduld passenger (thousand)		Gross revenue (USD, million)	
		Jan 2020	Feb 2020	Jan 2020	Feb 2020	Jan 2020	Feb 2020
Africa	Domestic	-11%	-8%	-447	-472	-44	-47
Africa - Asia/Pacific	International	4%	-19%	15	-123	6	-47
Africa - Middle East	International	-6%	-7%	-177	-218	-43	-53
Africa - North America	International	-9%	-3%	-18	-10	-6	-4
Africa & Middle East - Central America/Caribbean	International	-	-	0	0	0	0
Africa & Middle East - South America	International	2%	5%	2	-9	1	-5
Central America/Caribbean	Domestic	-8%	-7%	-442	-366	-41	-34
Central America/Caribbean - Europe	International	-2%	0%	14	-13	5	-5
Central America/Caribbean - North America	International	5%	4%	608	263	146	63
Central America/Caribbean - South America	International	5%	10%	120	100	47	39
China	Domestic	-13%	-76%	-10,181	-48,337	-693	-3,291
China - Europe	International	-4%	-54%	-63	-995	-25	-391
China - Middle East	International	5%	-57%	28	-353	14	-176
China - North America	International	3%	-45%	42	-702	23	-377
China & South West Asia - North Asia	International	-1%	-44%	-124	-3,516	-40	-1,134
China & South West Asia - Pacific South East Asia	International	-2%	-47%	-373	-5,788	-93	-1,449
Europe	Domestic	-11%	-13%	-2,273	-3,436	-327	-494
Europe - Middle East	International	-11%	-11%	-705	-859	-173	-210

Source: ICAO estimates based on ICAO ADS-B, OAG, ICAO-ICM MIDT, ICAO LTF and ICAO Statistical Reporting

Estimated Results by route group for Jan/Feb 2020 (compared to originally-planned)

Route Group	DOM/INT	Seat capacity		Scheduld passenger (thousand)		Gross revenue (USD, million)	
		Jan 2020	Feb 2020	Jan 2020	Feb 2020	Jan 2020	Feb 2020
Europe - North Africa	International	0%	1%	39	-27	5	-4
Europe - North America	International	3%	3%	296	109	88	32
Europe - North Asia	International	-2%	-1%	-8	-66	-4	-35
Europe - Pacific South East Asia	International	-13%	-10%	-221	-278	-91	-115
Europe - South America	International	-8%	-8%	-73	-107	-34	-51
Europe - South West Asia	International	-15%	-14%	-270	-353	-69	-91
Europe - Sub Saharan Africa	International	-9%	-10%	-137	-188	-47	-65
Intra Africa	International	-10%	-11%	-294	-380	-61	-78
Intra Central America/Caribbean	International	4%	4%	122	43	18	6
Intra China & South West Asia	International	-10%	-61%	-548	-3,099	-105	-591
Intra Europe	International	-7%	-8%	-2,619	-4,315	-317	-523
Intra Middle East	International	-6%	-6%	-268	-248	-40	-37
Intra North America	International	3%	3%	108	21	19	4
Intra North Asia	International	-2%	-3%	-36	-224	-4	-24
Intra Pacific South East Asia	International	-1%	-6%	-165	-1,640	-36	-360
Intra South America	International	-10%	-7%	-104	-122	-40	-47
Latin America/Caribbean - China	International	5%	-	0	0	0	0
Latin America/Caribbean - North Asia & Pacific South	International	3%	0%	3	-9	2	-8

Source: ICAO estimates based on ICAO ADS-B, OAG, ICAO-ICM MIDT, ICAO LTF and ICAO Statistical Reporting

Estimated Results by route group for Jan/Feb 2020 (compared to originally-planned)

Route Group	DOM/INT	Seat capacity		Scheduld passenger (thousand)		Gross revenue (USD, million)	
		Jan 2020	Feb 2020	Jan 2020	Feb 2020	Jan 2020	Feb 2020
Middle East	Domestic	-11%	-6%	-220	-206	-23	-21
Middle East - North America	International	2%	3%	22	13	12	7
Middle East - North Asia & Pacific South East Asia	International	-2%	-2%	-57	-358	-22	-136
Middle East - South West Asia	International	-3%	-2%	-202	-679	-40	-136
North America	Domestic	5%	5%	4,856	4,268	626	551
North America - North Asia	International	5%	5%	64	-101	38	-59
North America - Pacific South East Asia	International	4%	6%	29	-52	16	-28
North America - South America	International	5%	5%	106	50	49	23
North America - South West Asia	International	4%	5%	7	-15	4	-8
North Asia	Domestic	-2%	-4%	-69	-1,202	-5	-82
North Asia - Pacific South East Asia	International	0%	-8%	-54	-1,071	-20	-402
Pacific South East Asia	Domestic	-11%	-11%	-2,645	-3,680	-180	-251
South America	Domestic	-10%	-10%	-1,591	-1,752	-149	-164
South West Asia	Domestic	-14%	-14%	-2,488	-2,480	-169	-169
Domestic		-6%	-21%	-15,501	-57,662	-1,006	-4,003
International		-4%	-13%	-4,889	-25,321	-820	-6,473
Total		-5%	-18%	-20,390	-82,983	-1,826	-10,475

Source: ICAO estimates based on ICAO ADS-B, OAG, ICAO-ICM MIDT, ICAO LTF and ICAO Statistical Reporting

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https://www.icao.int/sustainability/Pages/Economic-Impacts-of-COVID-19.aspx

https://www.icao.int/Newsroom/Pages/Economic-impact-estimates-due-to-COVID-19-travel-bans.aspx

https://www.icao.int/Security/COVID-19/Pages/default.aspx

http://www.capsca.org/CoronaVirusRefs.html