



**SGH**

Warsaw School  
of Economics

**WP2**

**The economic  
conditions of the air transport  
sector before and during the crisis COVID-  
19 in Europe and Support measures**

April 2022, Warsaw, Poland

# Content

The economic analysis includes:

- changes in passenger numbers compared to previous economic crises.
- changes in revenue and profitability,
- structure of operating costs,
- identification of key players on the European market.

The aviation value chain is made up of:

- aircraft manufacturers,
- leasing suppliers,
- aviation related service providers,
- airports,
- airlines (passenger and cargo).

} covered by the analysis

**Value chain**

# Aviation value chain



	2018	2020
BOEING	\$100 bil./ 806	\$62 bil./ 157
AIRBUS	\$75 bil./ 800	\$57bil./ 566
BOMBARDIER	\$16 bil./ 181	\$6,5 bil./ 114
EMBRAER	\$5,4 bil. 137	\$3,8 bil./ 141

revenues/ airplanes



GECAS

- maintenance, repair, and overhaul (MRO) - 60% of carriers outsource these services, often to aircraft and component manufacturers or other specialist suppliers;
- ground handling, which includes passenger, baggage, and cargo handling;

analysis in the presentation

oligopolies

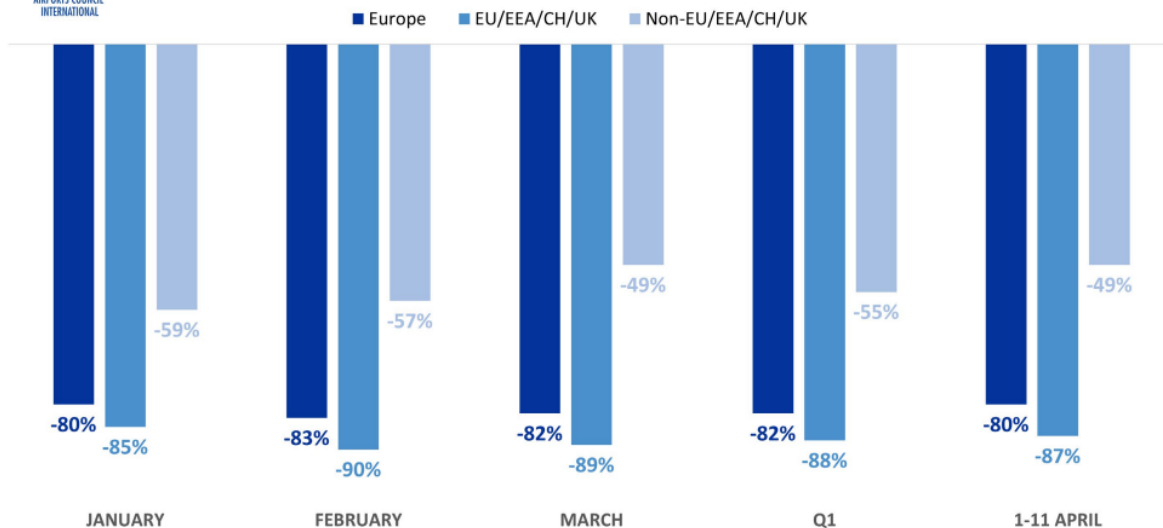
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**Airports**

# Passengers at European airports

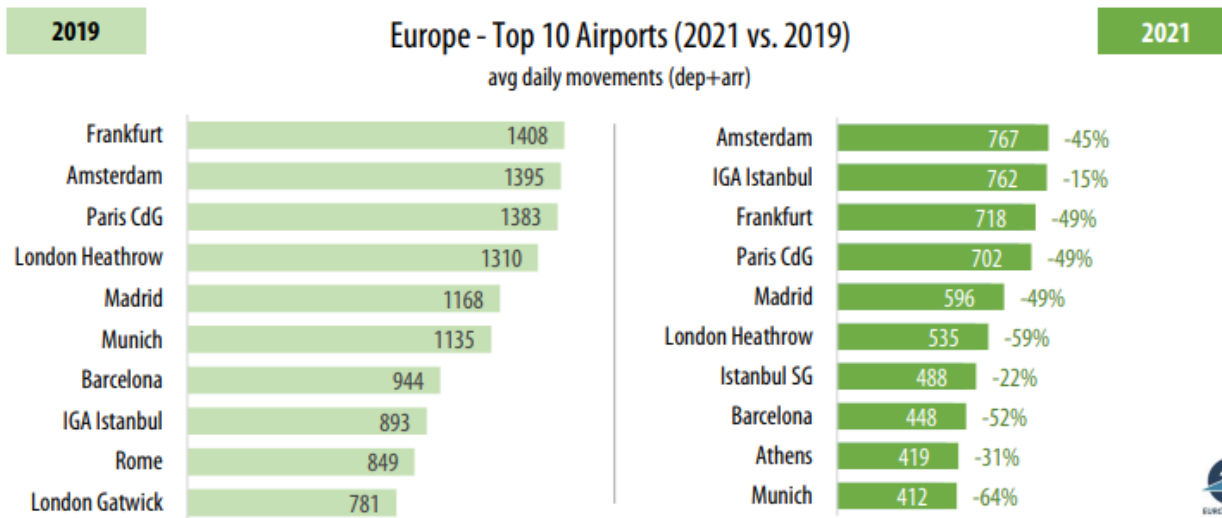


Passenger Traffic Developments in Europe  
2021 vs. Pre-pandemic traffic levels (2019)



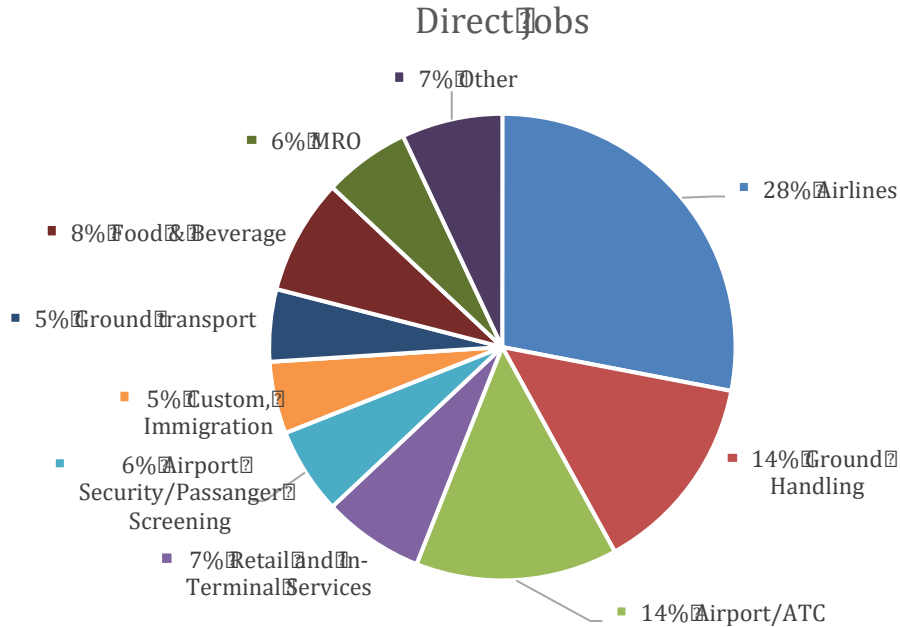
- Between 2016 and 2019, the number of passenger flights at European airports increased:
  - by 17% per cent from 1.6 billion to 1.9 billion,
  - compared to 13-33% growth elsewhere in the world.

# Europe's largest airports



The traffic freeze during the COVID-19 was largely due to administrative travel restrictions.

# Jobs at European airports

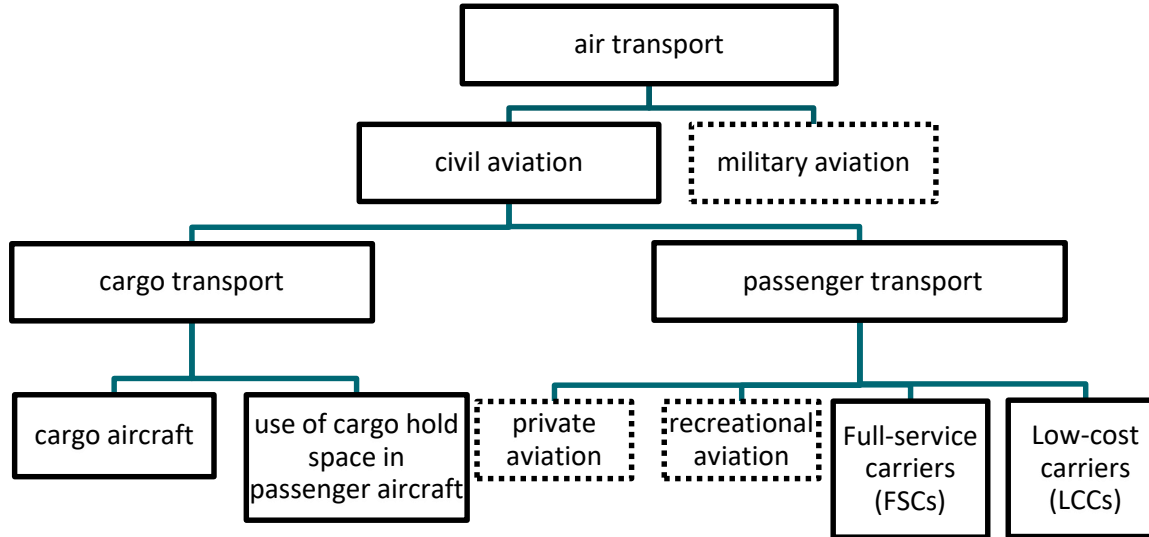


- 1.7 million direct jobs in Europe.
- As much as 53% of these jobs are concentrated in five countries:
  - Germany,
  - United Kingdom,
  - France,
  - Spain,
  - Turkey.

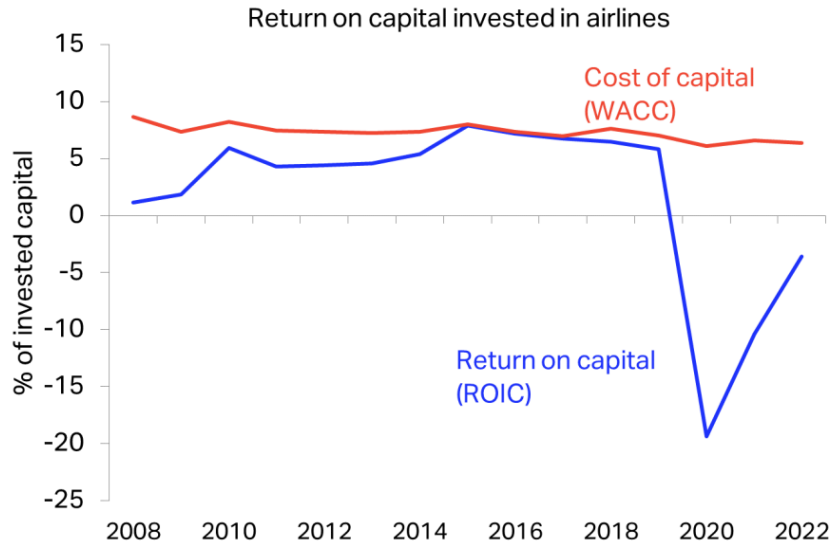


**Airlines**

# Air transport sector

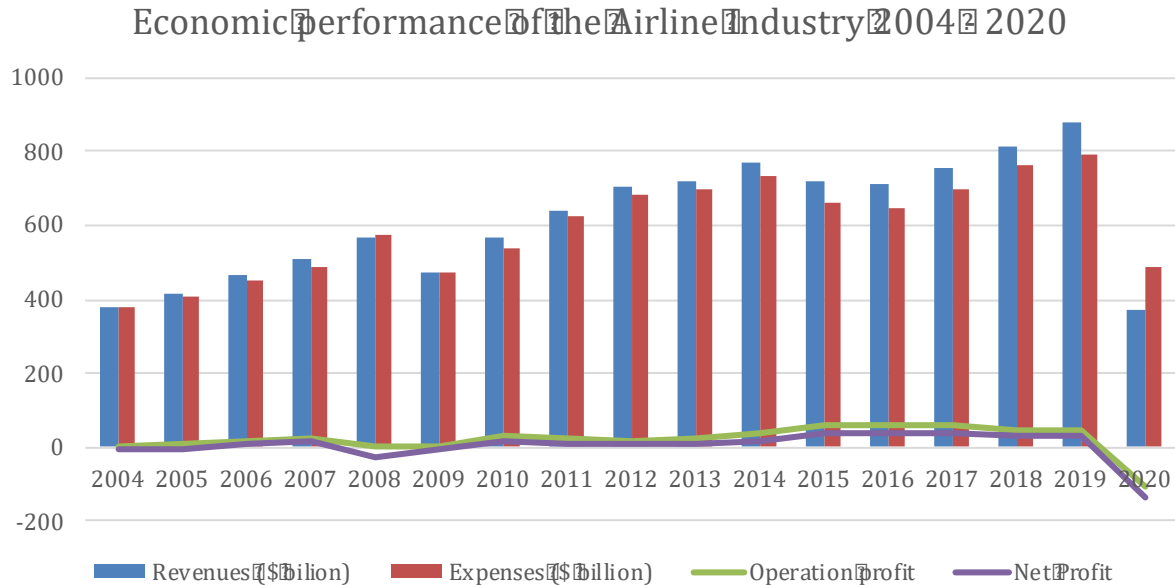


# Return on capital invested in airlines



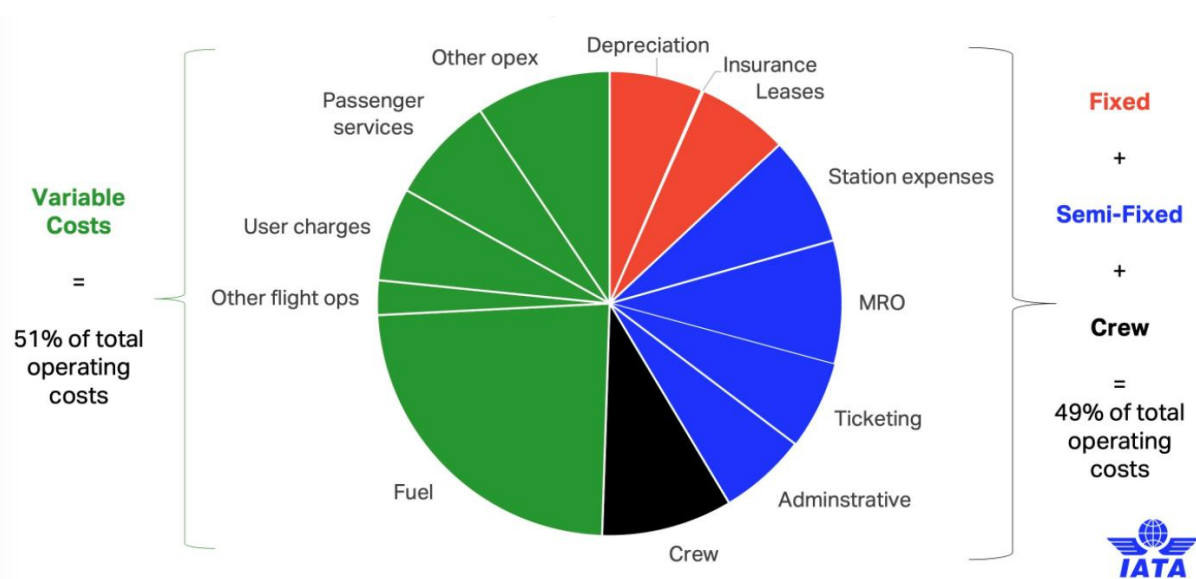
- one of the lowest rates of returns on invested capital (ROIC) of any industry since the 1970s;
- the airline industry was destroying - by 2016 - on average more than \$18 billion annually for shareholders;
- reasons for this:
  - fierce price competition,
  - powerful infrastructure providers,
  - cost-sensitive customers,
  - unstable cost structure due to fluctuating oil prices,
  - significant influence of state administrations - despite far-reaching liberalisation,
  - outsourcing of operations, with consolidating industries.

# Economic performance



- High revenues have been accompanied by equally high costs, resulting in low profits and losses.
- The industry's profitability was at a very low level before the crisis, despite historically high revenues.

# Airlines cost structure (FSCs)

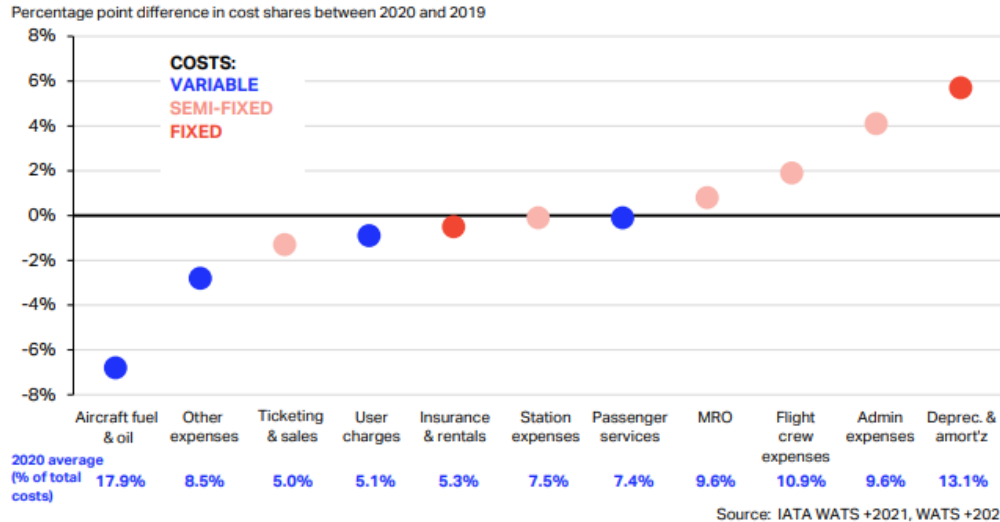


Source: IATA Economics using data from WATS and Economic Performance of the Airline Industry, End-Year 2019

- Fixed costs account for approximately 50% of the operating costs.
- The highest variable cost is the expense for the purchase of fuel.
- LCCs differences lie in:
  - the service of obligations to lessors – different the form of ownership of the fleet,
  - Lower expenses on crew salaries,
  - the purchase of aviation fuel has a higher share in expenses.

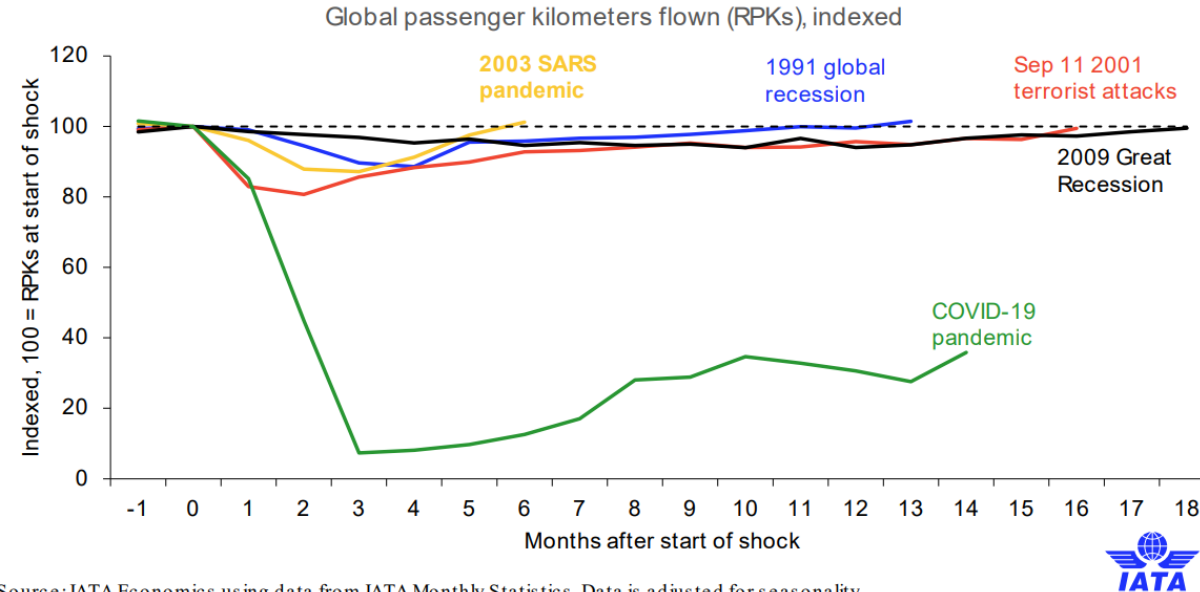
# Cost components before and during the pandemic

Shares of major cost components in total costs,  
difference between 2020 and 2019 (industry average)



- Share decrease on fuel purchases;
- Increase in:
  - maintenance,
  - lease payments,
  - pay for the crew.

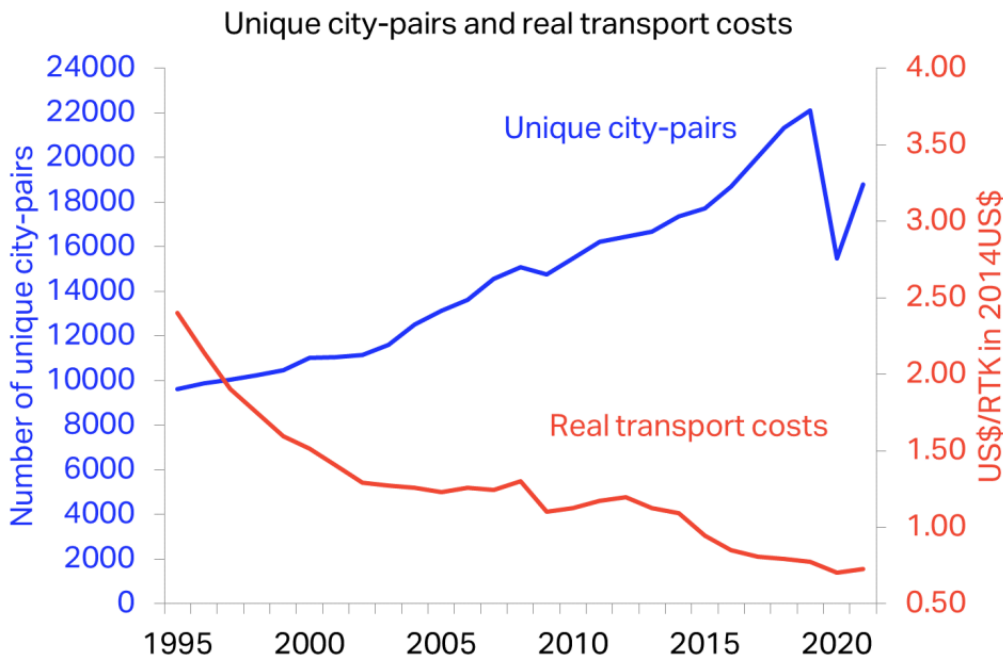
# Passenger kilometres flown – impact of crisis



Source: IATA Economics using data from IATA Monthly Statistics. Data is adjusted for seasonality.

- None of previous turbulences has affected the industry's performance as strongly and permanently as the COVID-19 pandemic;
- Almost 1.5 years after the start of the COVID-19, the sector has not even returned to half of its pre-2020 passenger-kilometre volume.

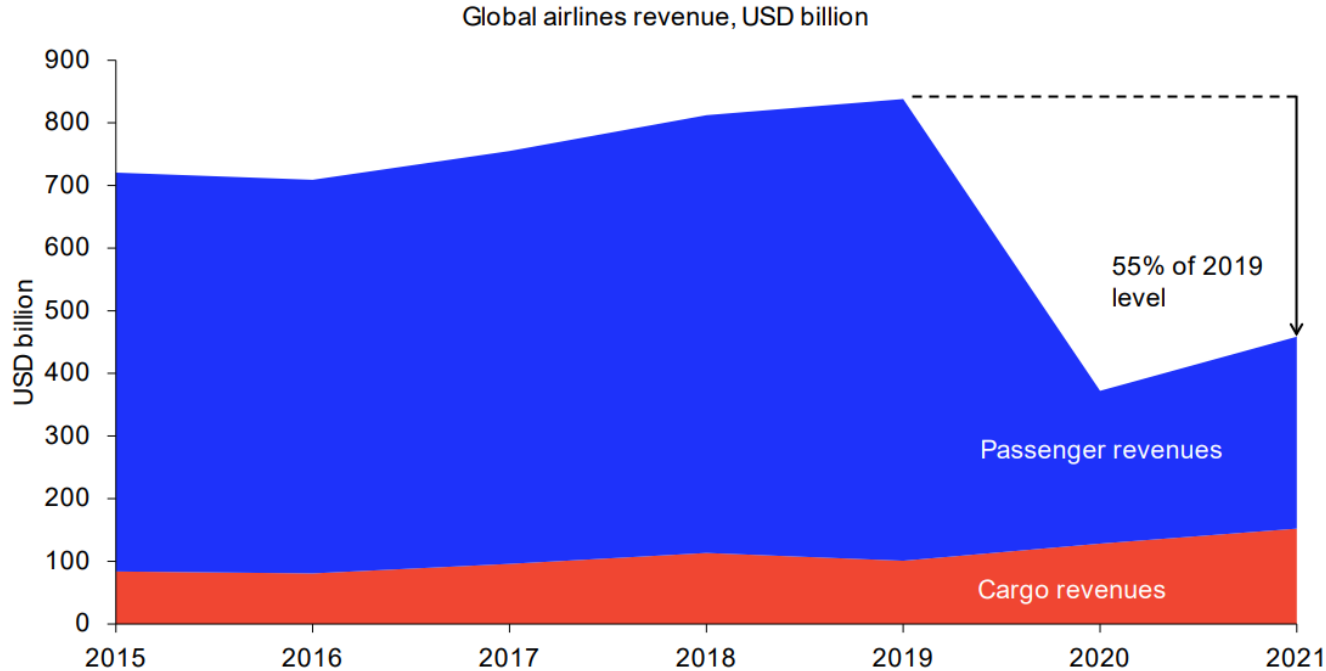
# Air traffic during the pandemic



- In 2020 a total of 1.5 billion passenger trips took place, compared to 4.5 billion in 2019.
- In 2020, the number of unique city pairs decreased by 30%.
- In 2021, the number of unique city pairs is expected to partially improve as airlines expand their route networks due to the easing of travel restrictions in some regions.
- In 2021 the number of unique city pairs is estimated to be 15% lower than in 2019.



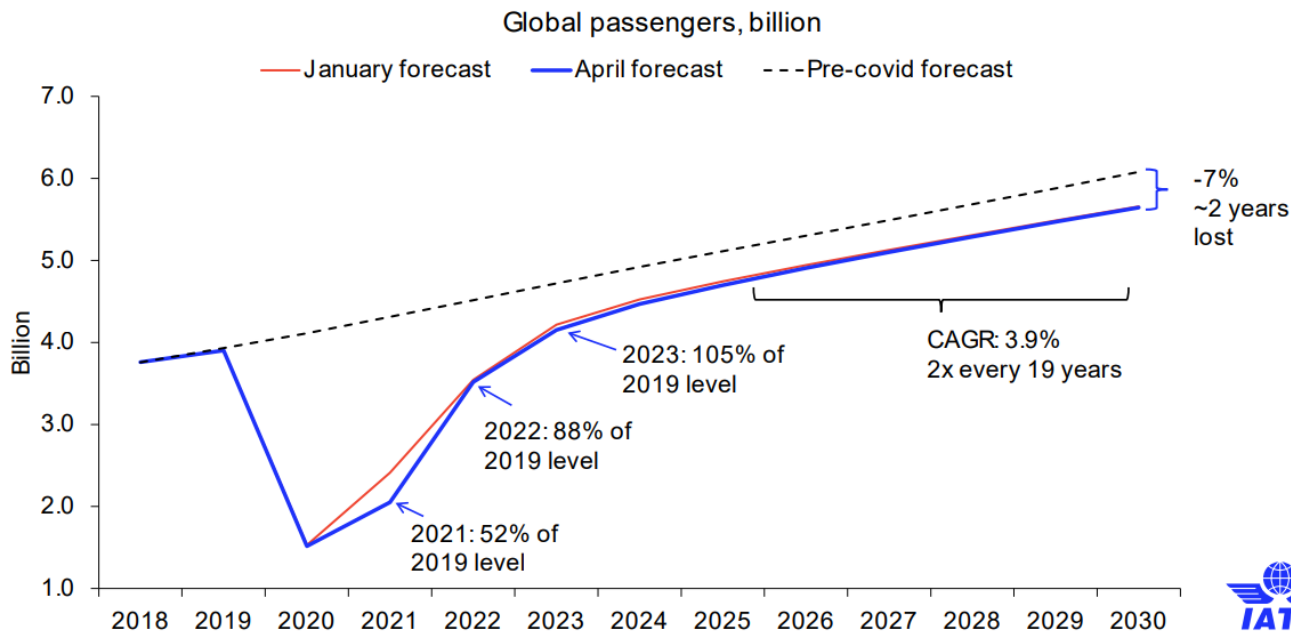
# Airlines revenues



Source: IATA Economics Airline Industry Financial Forecast update, April 2021

**SGH** In 2021 the air transport sector's revenues will only reach 55% of 2019.

# Forecast of global passengers after the pandemic



Source: IATA Economics using data from Tourism Economic/IATA Air Passenger Forecast, April 2021.

- Referring to the scale of the sector's activities before the crisis triggered by COVID-19 seems a nostalgic approach;
- Further disruptions, e.g. war in Ukraine -> forecasts seems underestimated.

# Concentration of the European market



- The European market is concentrated - the four largest carriers (Ryanair, Lufthansa group, IAG and easyJet) had a total local market share of as much as 57% in 2019.
- Two of the leaders are low-cost carriers, of which Ryanair (19% share) is often described as ultra-low cost.
- More than 100 carriers with market shares of less than 1% were operating at the beginning of COVID-19.
- At the beginning of COVID-19, Ryanair had liquid assets representing 47% of its annual revenues, equivalent to 170 days of no activity; for Lufthansa it was only 51 days.

# Top 10 in Europe during the pandemic



Airlines	Top 10 in 2019	Passengers 2019	Top 10 in 2020	Passengers 2020
<b>Ryanair</b>	1	152 mio.	1	52 mio.
Lufthansa	2	145 mio.	2	36 mio.
IAG	3	118 mio.	4	31 mio.
Air France KLM	4	104 mio.	3	34 mio.
<b>EasyJet</b>	5	104 mio.	7	16 mio.
Turkish Airlines	6	74 mio.	6	28 mio.
Aeroflot	7	60 mio.	5	30 mio.
<b>Wizz Air</b>	8	40 mio.	8	16,5 mio.
Norwegian Air	9	36 mio.		Out of Top 10
Pegasus (Turkish)	10	31 mio.	9	14,5 mio.
S7 (Russian)	n/a	-	10	12,5 mio.



60% drop

# LCCs business model



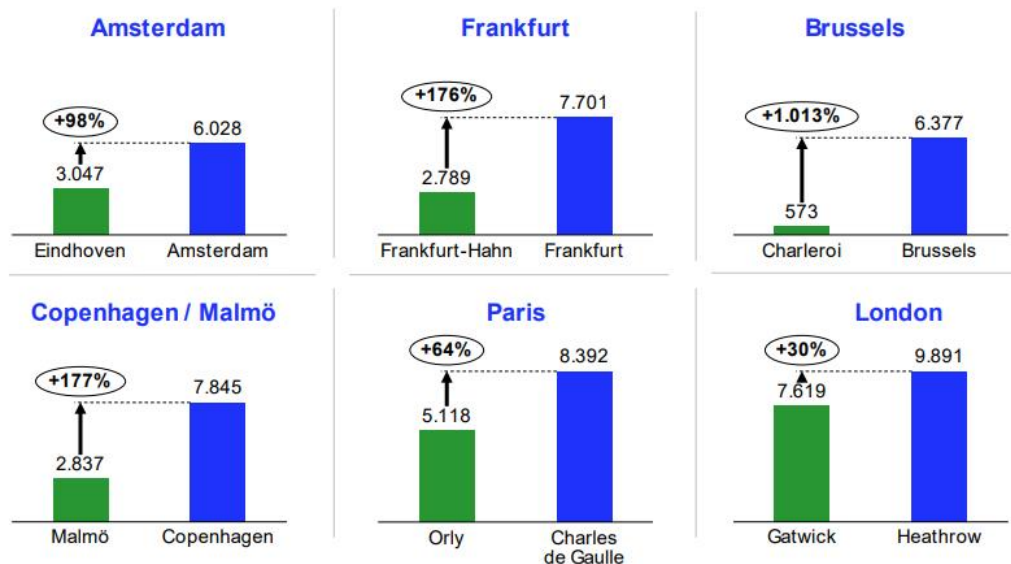
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- LCC airlines are gaining market share in Europe - their share of total passenger traffic: in 2019: 37%, in 2020: 44.5%.
- For Ryanair, the average ticket price in 2019 was €37, plus €17 in paid options, for a total of €54.
- LCCs fly with higher occupancy - up to 80% of seats, while FSCs have only 65% of seats occupied on average.
- LCCs' other expenses (loading, sales & distribution fees, administrative) are between 50% and even 80% lower than FSCs.
- LCCs pay lower salaries to the smaller crew.
- All these cause that operators such as Ryanair and Wizz Air have costs per available seat 43% lower than FSCs.
- For several years before crisis LCCs' profit margin have been between 12% and 20% -> FSCs had only one digit profit margin.
- Ryanair at the start of the Covid-19 had €3.8bn in cash and low debt/ 69% of equity.
- Ryanair has its own fleet of more than 400 aircraft, thus saving on the financial handling costs of leasing and being able to sell redundant fleet.

# LCCs' low cost approach to airport charges

Tier 2 airport Tier 1 airport

Estimated airport charges for the turnaround of an A320 aircraft by airport (USD)



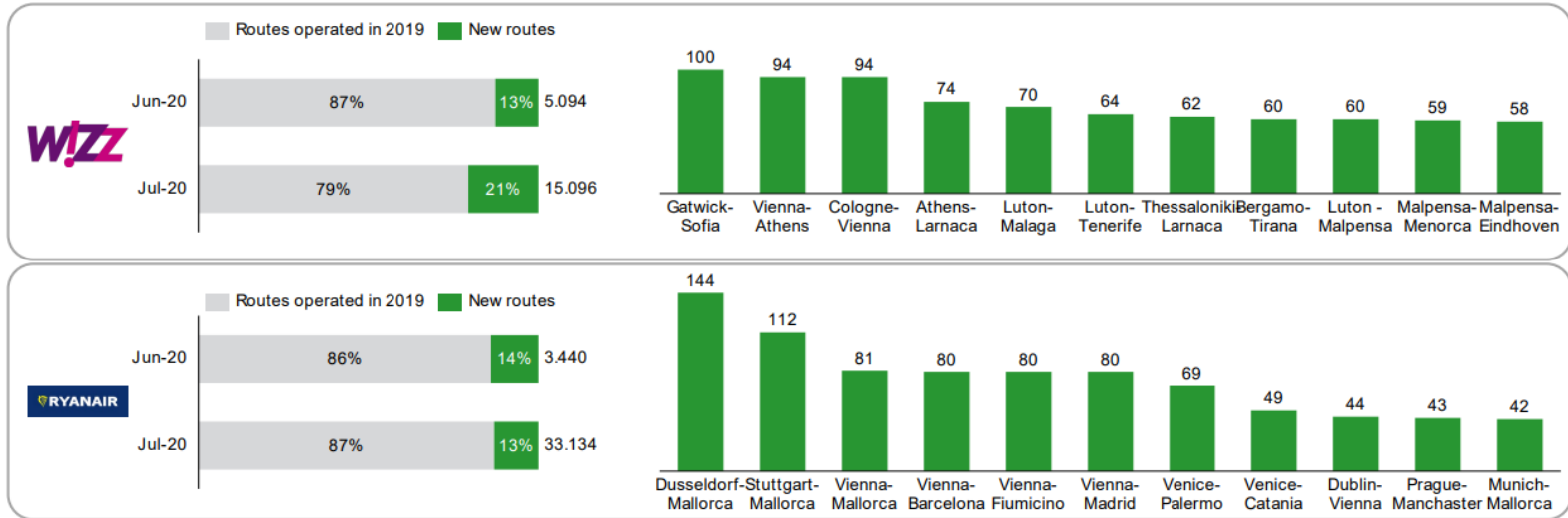
Source: IATA Economics. Estimated airport charges for turnaround on an A320 aircraft by airport in US\$



# LCCs' agile reactions - new routes in 2020

Share of flights on routes already operated in summer 2019 vs. new routes

Number of flights on top new routes, Jun-Jul 2020, both ways



Source: IATA Economics using data from SRS Analyser

**SGH** newer unique intercity routes between I and II waves of the pandemic

[www.sgh.waw.pl](http://www.sgh.waw.pl)

# Conclusions

- LCCs can emerge from the Covid-19 crisis without major damage thanks to the business model and financial reserves.
- LCCs will even have sufficient financial resources to take part in the likely restructuring of air transport in Europe.
- FSCs will survive the crisis mainly thanks to massive public support.



**Public support measures**

# Impact on air transport and sector workers

TRAN Committee of the European Parliament study of July 2021 (Rodrigues et al, 2021):

- Tremendous economic loss for Europe aviation: €22.2 billion net losses for airlines and €33.6 billion revenue losses for airports.
- Significant difference in impact on European (1.32 billion passengers lost) and non-European (400 million ) airport traffic.
- 6.4 million direct European aviation jobs and jobs supporting the aviation sector were lost by December 2020. The job loss was forecasted to drop globally by further 4.8 million by the beginning of 2022.

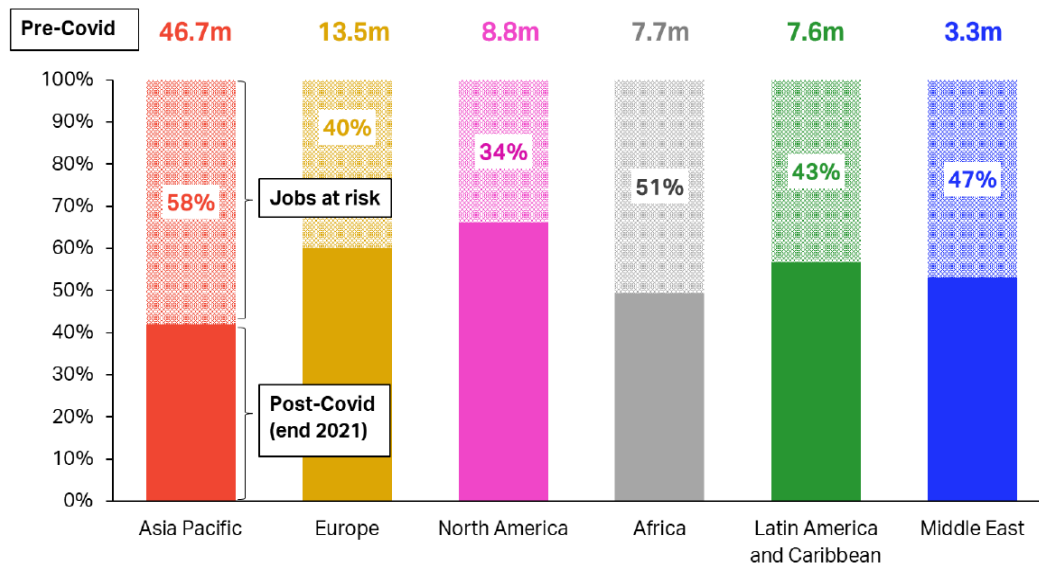
# Impact on air transport and sector workers

		Europe	World
Employment supported	Pre-Covid	13.5 million	87.7 million
	Post-Covid (end 2021)	8.1 million	43.8 million
	% change	-40 %	-50%
Economic activity supported	Pre-Covid	\$991 billion	\$3.5 trillion
	Post-Covid (end 2021)	\$480 billion	\$1.8 trillion
	% change	-52%	-49%
Direct aviation jobs supported	Pre-Covid	2.7 million	11.3 million
	Post-Covid (end 2021)	2.1 million	9 million
	Jobs at risk	587,000 (22%)	2.3 million (21%)

Covid-19 analysis fact sheet (update), September 2021, *Analysis by Oxford Economics working with ATAG, LATA, ACI World, CANSO and published statements.* [www.aviationbenefits.org](http://www.aviationbenefits.org)

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Employment supported by aviation



Source: Aviation Benefits Beyond Borders report, ATAG

# Impact of COVID-19 on European Aviation in Project Partner Countries

Country	Passenger impact	Impact O-D Passengers (million)	Impact Airline Revenues (\$ billion)	Impact Employment Total	Impact GVA total (\$ billion)
France	-65%	-94.6	-16.7	-466100	-41.50
Germany	-65%	-117.6	-20.2	-550800	-38.75
Ireland	-65%	-22.7	-2.9	-93100	-13.45
Italy	-63%	-98.2	-13.4	-369100	-25.16
Poland	-61%	-24.3	-2.8	-68600	-2.23
Spain	-63%	-132.7	-17.9	-1049500	-69.06

Source: own development based on IATA (2020). \* data on Denmark not provided.

- The exact employment impact on different groups of workers within the aviation sector of different types of companies (FSC vs LCC) is not known.
- Sobieralski (2020) in his data time series analysis estimates that FSC employment is most impacted, while LCC and regional airline employment is least impacted.
- The hardest hit employees are ones related to passenger handling and flight operations.

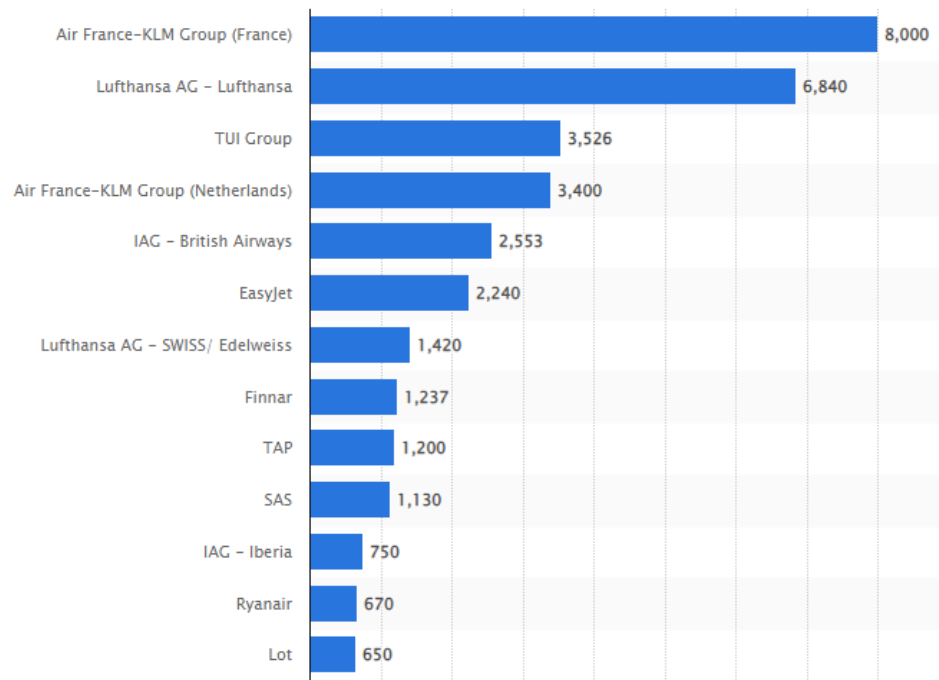
# Public support in air transport sector

- Member States may provide support to airlines and airports affected by the COVID-19 pandemic in line with the *de minimis rules* or the *General Block Exemption Regulation (GBER)*, which do not require prior authorization to the Commission.
- Due to the scale of disruption caused by the pandemic, the Commission has issued guidelines for the notification of State aid measures under:
  - aid granted under **Article 107(2)(b) TFEU** (Treaty on the Functioning of the European Union) as well as a new
  - *Temporary Framework* under which State aid measures can be justified in line with **Article 107(3)(b) TFEU**.

# Public support in air transport sector

Government support has taken various forms:

- capital injections,
- loans,
- loan guarantees,
- tax deferrals,
- and reductions in tax liabilities,
- recapitalisation,
- indirect supports (e.g. wage subsidies under horizontal schemes).



Source: Statistica

# State aid to airlines under Article 107(2) (b) TFEU

Beneficiary	Country	Amount (million EUR)	Type of aid	Case
TAP Portugal	Portugal	452	State loan (damage 03-06/20)	62304
Finnair	Finland	350	Hybrid loan	60113
French carriers	France	200	Deferral payment of taxes	56765
Alitalia	Italy	199,45	Direct grant (damage 03-06/20)	58114
Austrian Airlines	Austria	150	State loan, direct grant	57539
SAS	Denmark	137	State guarantee on a revolving credit facility	56795
SAS	Sweden	137	State guarantee on a revolving credit facility	57061
Italian carriers	Italy	130	Direct grant (damage 1/3-15/06)	59029
Aegean Airlines	Greece	120	Direct grant (damage 03-06/20)	59462
Alitalia	Italy	73	Direct grant (damage 06-10/20)	59188
Blue Air	Romania	63	Public guarantee, loan guarantee	57026
Corsair	France	30,2	Tax credit	58125
Alitalia	Italy	24,7	Direct grant (damage 11-12/20)	61676
Tarom	Romania	19,3	Loan guarantee (damage 03-06/20)	56810
SATA Air Azores	Portugal	12	Direct grant (damage 03-06/20)	61771
Croatia Airlines	Croatia	11	Direct grant	55373

# State aid to airlines under Article 107(3) (b) TFEU (Temporary Framework)

Beneficiary	Country	Amount (million EUR)	Type of aid	Case
Lufthansa	Germany	6.000	Equity participation, silent participation, loan guarantee	57153
Air France	France	7.000	State guarantee on loans, subordinated state loan	57082
Air France	France	4.000	Recapitalisation	59913
KLM	Netherlands	3.400	State loan guarantee, state loan	57116
SAS	Denmark-Sweden	1.000	Recapitalisation	57543
LOT Polish Airlines	Poland	650	Subsidised loan, recapitalisation	59158
Finnair	Finland	540	State loan guarantee	56809
Swedish carriers	Sweden	455	State guarantee on loans	56812
Brussels airlines	Belgium	290	State loan, recapitalisation	57544
Finnair	Finland	286	Recapitalisation	57410
Air Baltic	Latvia	250	Recapitalisation	56943
Nordica	Estonia	30	Share capital increase, subsidised interest loan	57586
Various enterprises	Hungary	21,76	Tax allowance	57767
All interested airlines	Denmark	20	Direct grant to cover airport charges	58157
All interested airlines	Cyprus	6,3	Direct grant to airlines resuming connectivity	57691
Danish carriers	Denmark	6	Direct grant – wages of technical staff	59370
All interested airlines	Slovenia	5	Direct grant (up to €800.000 per airline)	59124
Airlines Sibiu airport	Romania	1,7	Direct grant to airlines resuming connectivity	59156



# Long-term consequences of public support measures in air transport sector

- the post-pandemic market setting will require targeted measures that allow the sector to grow without undermining competition, ensuring that a balance is struck between supporting specific firms and ensuring a level playing field for all companies. (Rodrigues et al, 2021).
- an assessment on the viability of the airline in the long term (i.e., after the Covid-19 crisis), seems necessary in order to justify the grant of public support to a given airline (Rivas 2020).
- Fitch Ratings predicts that, after the pandemic, there will be fewer airlines operating in more competitive markets.

# Long-term consequences of public support measures in air transport sector

- One possible outcome of the increase of debt is that companies might increase ticket prices to finance repayment (Rodrigues et al, 2021).
- May lead to reduction of capacity of the aviation sector to carry out the much-needed upgrade of its infrastructure.
- Public supports and interventions should be linked to the conditionality on meeting environmental or climate changes, which is now not the case (as indicated by Greenpeace Bailout Tracker).

**Thank you!**