

# CODA Digest

## All-causes delay and cancellations to air transport in Europe

Report for Q2 2020



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## DOCUMENT APPROVAL

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## COVID-19 Impact

This CODA Digest covers April, May and June 2020 (Q2 2020) and is published while European aviation remains strongly affected by the **COVID-19 pandemic**. We have reduced the CODA Quarterly Digest to a minimum level of reporting. Even with this, we caution against any in-depth comparison with previous years.

## 1

### Executive Summary

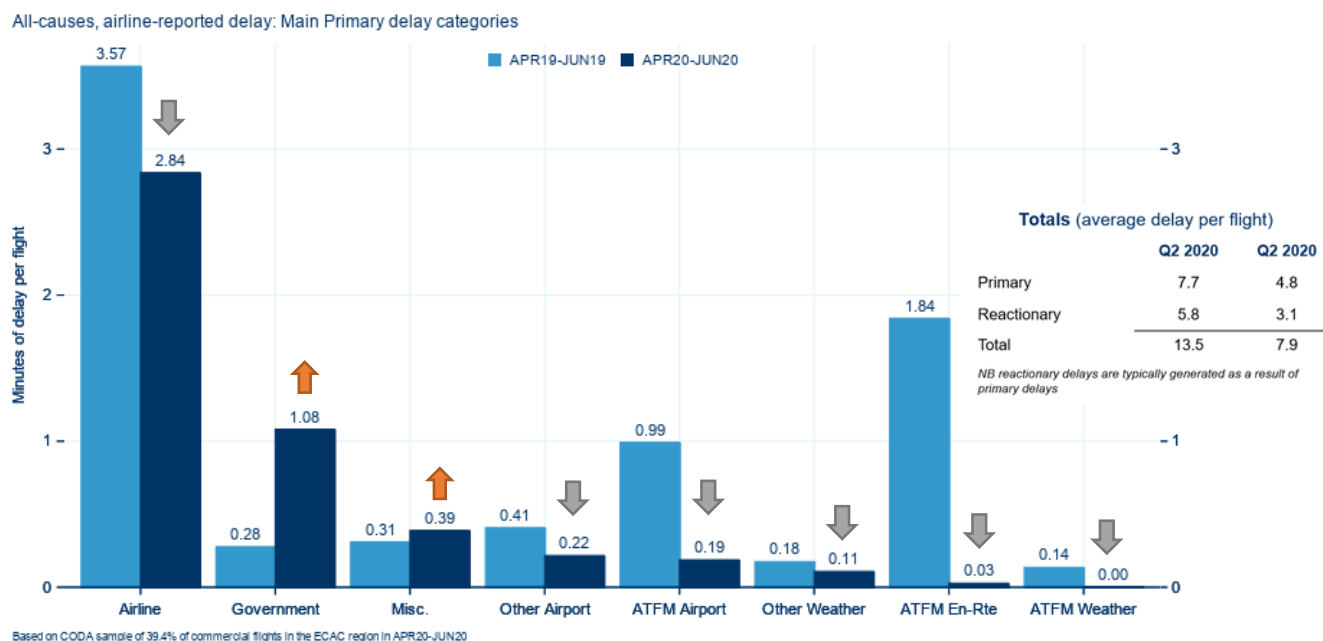
In terms of overall delay, the **average delay per flight for Q2 2020 decreased** by 5.6 minutes to **7.9 minutes per flight**. This came amongst unprecedented operational conditions for the whole aviation industry, with **quarterly traffic levels falling by 84%** in comparison to Q2 2019.

The main change in delay came in relation to **governmental causes\***, these delay codes being used to record delays due to **mandatory security or immigration, customs and health related delays**. The contribution to the average delay/flight almost **quadrupled in Q2 2020, contributing 1.1 minutes per flight** compared to 0.3 in the same period in 2019.

The reduction in overall delay is further highlighted by the **high arrival punctuality**, with **91.4% of flights arriving within 15 minutes or earlier than their scheduled arrival time (STA)**. This dramatic increase occurred as airlines that could operate flights, saw many flights depart ahead of schedule, in turn arriving even earlier than their STA.

En-route **ATFM delays fell to near 0.0 minutes/flight** with only a handful of ATFM delays being observed during the quarter.

Figure 1. Breakdown of the Average Delay per Flight Q2 2019 vs. Q2 2020



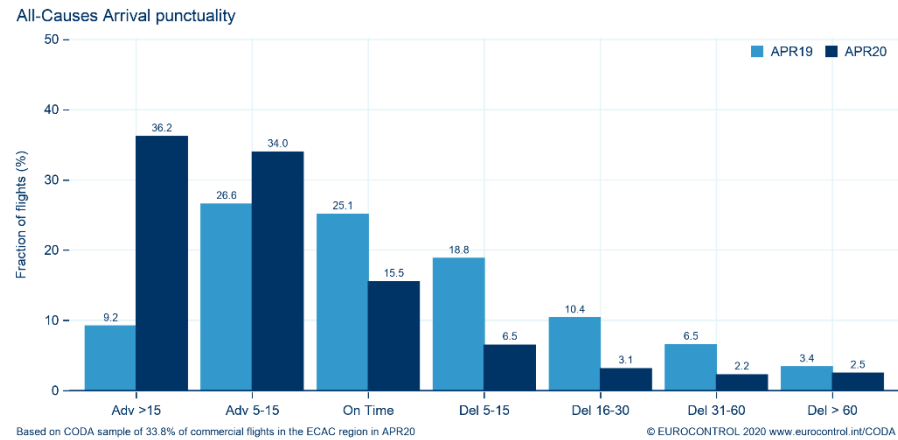
### \* Extract of the Standard IATA Delay Code Sub-Codes (IATA AHM 731) Airport and Government Authorities (IATA Delay Codes 85 & 86)

85 (AS)	MANDATORY SECURITY
Z	MANDATORY SECURITY CHECK
Y	SECURITY CONTROL CHECKPOINTS
X	BAGGAGE AVI SECURITY
W	BAGGAGE IDENTIFICATION UNLOADING INTENDED
V	AIRPORT TERMINAL SECURITY
U	AIRLINE AIRCRAFT SECURITY CHECK
T	EXTRAORDINARY SECURITY EVENTS
G	OTHER
86 (AG)	IMMIGRATION, CUSTOMS, HEALTH
Z	IMMIGRATION EMMIGRATION
Y	CUSTOMS
X	HEALTH
G	OTHER

## 2 Arrival Punctuality by Month

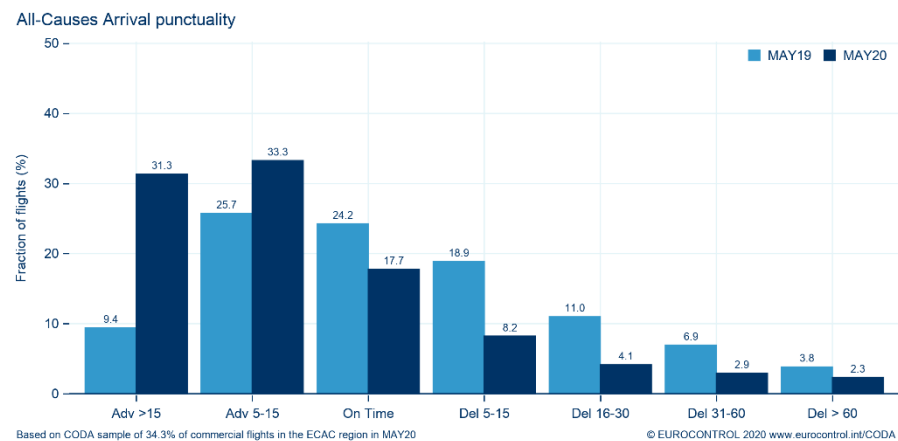
Figure 3. Arrival Punctuality April 2020

The quarter saw significant changes in airline punctuality as airline traffic fell and the flights that were operated achieved better punctuality. Notable are the amount of early arrivals, as airlines that could operate flights saw many depart ahead of schedule in turn arriving even earlier than their STA.



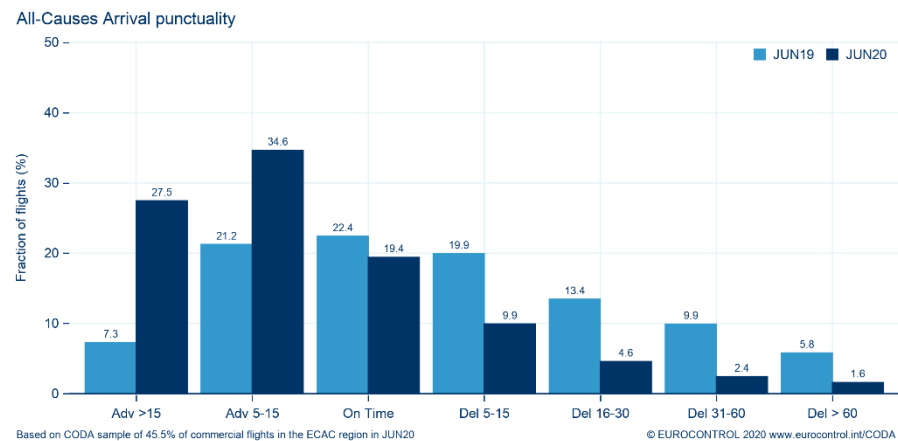
April 2020 saw 92.2% of flights arriving within 15 minutes or earlier than their scheduled arrival time (STA), compared to 79.7% in April 2019.

Figure 4. Arrival Punctuality May 2020



May 2020 saw 90.5% of flights arriving within 15 minutes, compared to 78.2% in May 2019.

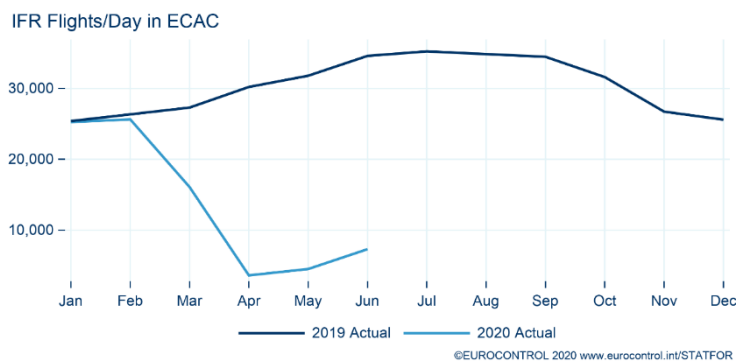
Figure 4. Arrival Punctuality June 2020



In June 2020, 91.4% of flights arrived with 15 minutes, compared to 70.8% in June 2019.

### 3 Traffic

Figure 2. Total Flights per Day in ECAC



European flights (ECAC) in average daily terms (Figure 1) decreased by 84.1% in Q2 2020 compared with Q2 2019. This quarterly average is of course strongly driven by the COVID-19 influence which commenced in March 2020 and continued throughout the quarter. Further information regarding traffic and forecasts can be consulted at the [STATFOR](#) website and via the [STATFOR Interactive Dashboard \(SID\)](#).

### 4 2020 Monthly Summary

Section 3 provides a month-by-month view for Q2 2020, highlighting the particular locations, causes of Network delay or disruptions in further detail.

**April 2020.** The average delay per flight on departure was 9.1 minutes, a decrease of 2.4 minutes compared to April 2019. April saw the start in the trend of higher governmental delays, these increasing to 0.7 minutes/flight from 0.3 minutes/flight in April 2019.

In comparison to April 2019, network traffic fell by 88% with the impact of the COVID-19 pandemic being at its strongest. The major airline groups (Lufthansa, IAG, Air France-KLM, Ryanair and easyJet) all operated with less than 90% of their traffic levels compared to April 2019. Despite the strong fall in passenger demand, cargo operators fared a little better with DHL being the busiest operator in Europe, as demand for cargo outstripped capacity. Concerning airports, Frankfurt Main was the busiest, followed by London Heathrow, however flights were 85% and 87% down respectively. Freight centric airports such as Leipzig and Liege saw a lesser reduction in flights, with flights at these airports down 28% and 12% respectively.

**May 2020.** The average delay per flight on departure was 8.2 minutes, a decrease of 4.1 minutes compared to May 2019. Here again, governmental delays increased from 0.2 minutes/flight to 1.2 minutes compared to May 2019.

Network traffic fell by 86% compared to May 2019, Frankfurt Main and London Heathrow were the busiest airports. Liege recorded a 2.1% increase in flights compared to May 2019 as demand for freight increased, with Leipzig and Koln also remaining busy despite reductions in flights. DHL remained the busiest operator. Norwegian domestic flying stayed resilient with Wideroe seeing a 50% reduction in flights, compared to 90% reductions for the major European carriers.

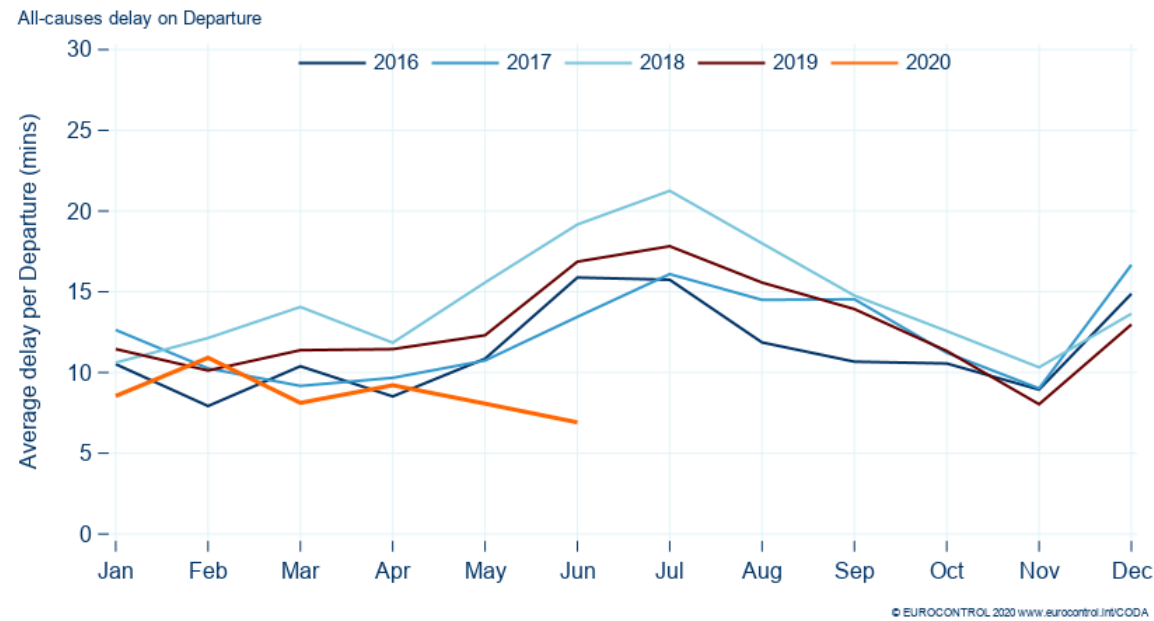
**June 2020.** The average delay per flight on departure was 7.3 minutes, a decrease of 9.2 minutes compared to June 2019. En-route ATFM delays fell by 2.6 minutes, however again governmental delays increased from 0.3 minutes/flight to 1.3 minutes compared to June 2019.

Traffic for month decreased by 79% as the effects of the COVID-19 pandemic continued. The network did show some signs of recovery however, with average daily traffic in ECAC at 7,306 flights compared to 4,507 in May 2020. Paris CDG was the busiest airport in June 2020, followed by Frankfurt Main, Amsterdam Schiphol and London Heathrow. Istanbul Ataturk and Liege airports recorded increases in flights compared to June 2019 as these airports handled predominantly cargo flights.

## 5 Average Delay per Delayed Flight (Departure)

Overall, the average departure delay per flight in Q2 2020 decreased to 7.7 minutes, compared to 13.6 minutes per flight in Q2 2019. Following the large reduction in flights in April, those flights that did operate saw both extremes of delay with many operating ahead of schedule, however the fewer flights that did experience delay tended to experience longer delays, this is reflected in the higher average delay per delay flight in Figure 9.

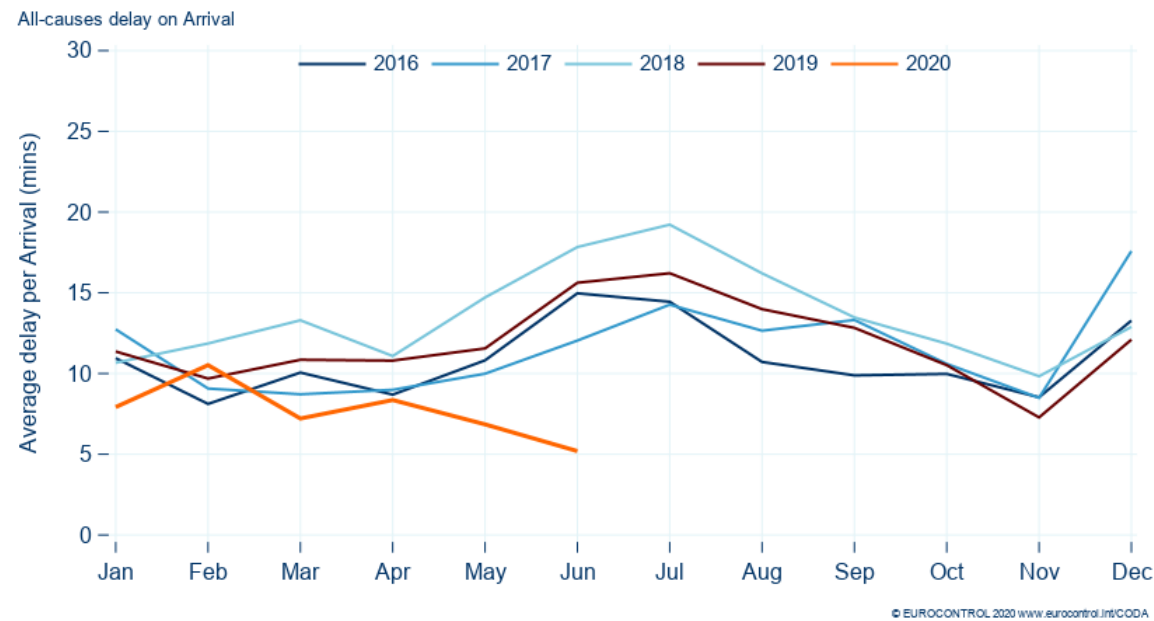
Figure 6. Average Delay per Flight (All-Causes) for Departures



## 6 Average Delay per Delayed Flight (Arrival)

The average delay per flight on arrival (Figure 8) showed a similar decreasing trend to that of the departure, at 6.3 minutes per flight, a decrease of 6.4 minutes when compared to Q2 2019.

Figure 7. Average Delay per Flight (All-Causes) for Arrivals





## 7 Scheduling Indicators

Two CODA scheduling indicators help airline schedulers determine the optimal schedule based on historical flight data:

Scheduling correctly is a difficult art: if too long a time is blocked for a flight, the airline will not be able to make best use of resources - staff, airframes, infrastructure. Too short a time can arguably be worse as late flights generate rotational delay with late incoming aircraft and passengers from previous flights having to be accommodated. When flights leave on time but arrive after the scheduled time of arrival they cause reactionary delays. Schedule padding is essential for air carriers in order to find schedules which work with the typical patterns of delay, so that they can deliver passengers on time, and get maximum use out of their aircraft. Consequently, when delays decrease it takes one or two (IATA) seasons for the airline to adapt its schedule accordingly.

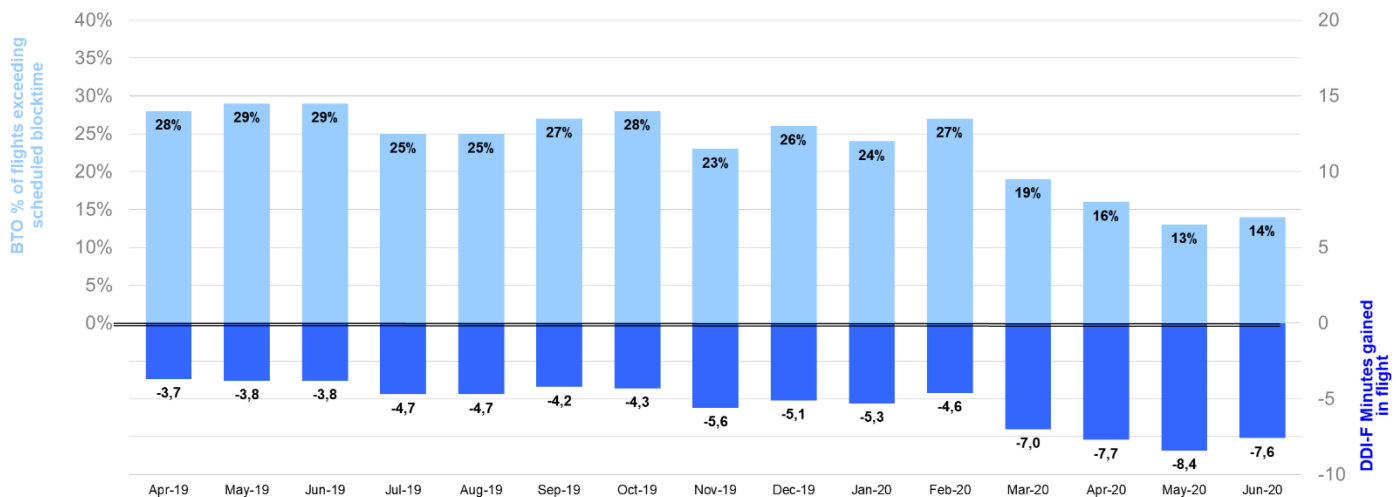
The **Delay Difference Indicator - Flight (DDI-F)** or the difference between departure and arrival punctuality expressed in minutes. This can be indicated as a positive or negative figure, for example, a flight departing with 20 minutes delay and arriving with 30 minutes arrival delay will have a DDI-F of +10 minutes.

The European DDI-F in Q2 2020 was -7.9 minutes, this an increase in comparison to Q2 2019 where the DDI-F was -3.8 minutes. The exceptional operational conditions caused this large increase in the DDI-F as network congestion reduced.

The **Block Time Overshoot (BTO)** is the percentage of flights with an actual block time that exceeds the scheduled block time.

The European BTO in Q2 2020 decreased to 14% compared to 29% in Q2 2020, again here Q2 2020's unique operational conditions drove this decrease, as the reduction in traffic influenced those flights that did operate, combined with the absence of holding and receiving more direct routes. Meaning that many flights operated well within their scheduled block time.

Figure 8. Block Time Overshoot (BTO) and Delay Difference Indicator - Flight (DDI-F) April 2019 – June 2020





## 8 Year on Year Trends in All-Causes Indicators

This section summarises the year-on-year trends in the main indicators of delay from all-causes. A flight is considered delayed from 5 minutes.

The performance in Q2 2020 can be observed in (Figures 9, 10 and 11). Despite a good average delay per flight, the average delay per delayed (ADD) flight saw increases in notably April, a month where despite many flights operating ahead of schedule, those that did experience delays saw those increase significantly. The June 2020 ADD was the lowest in 5 years.

**Figure 9. Average all-causes delay per delayed flight  $\geq 5$  mins (departures top, arrivals bottom)**

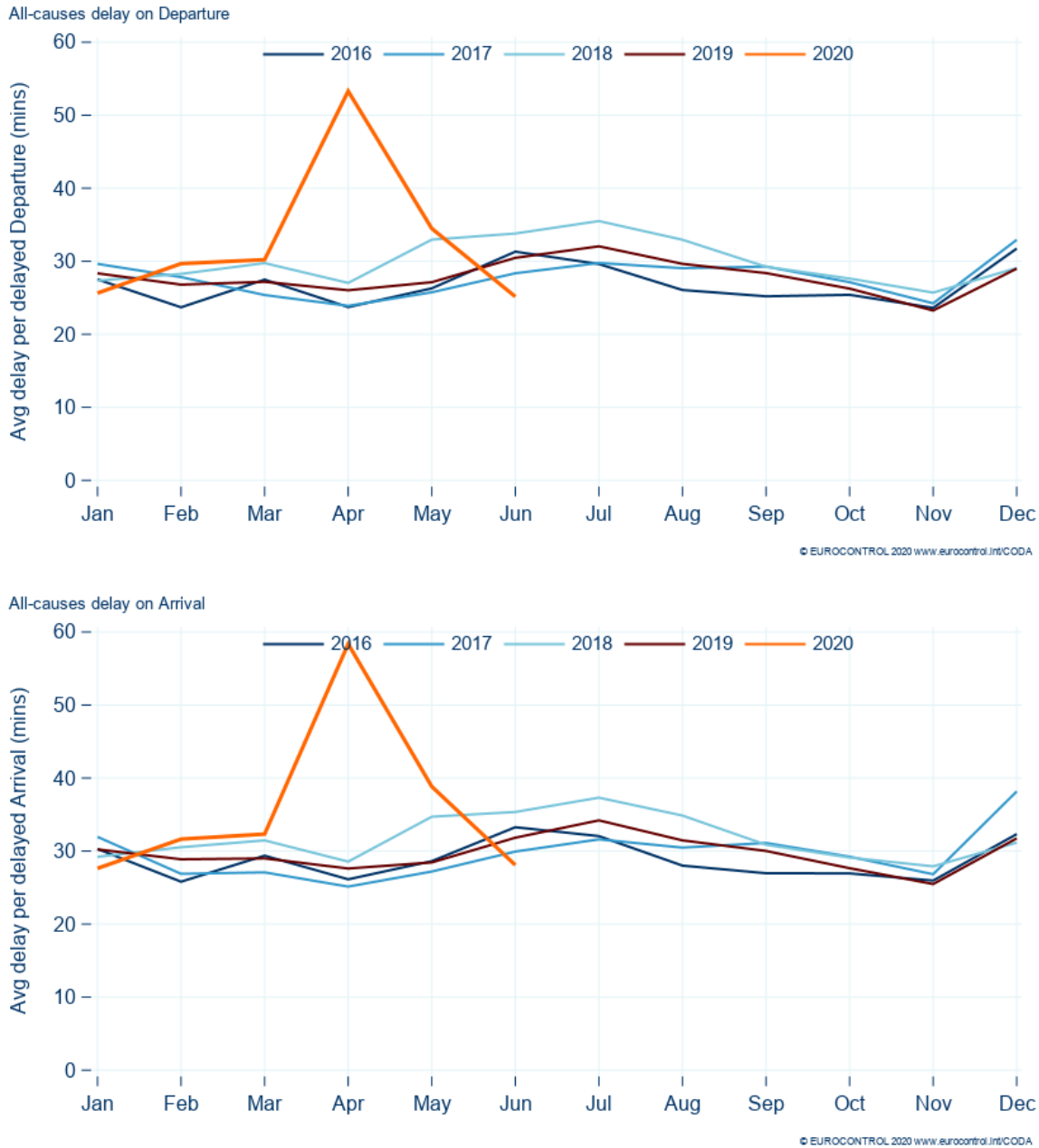


Figure 10. Percentage of flights delayed  $\geq 5$  mins for all-causes delay (departures top, arrivals bottom)

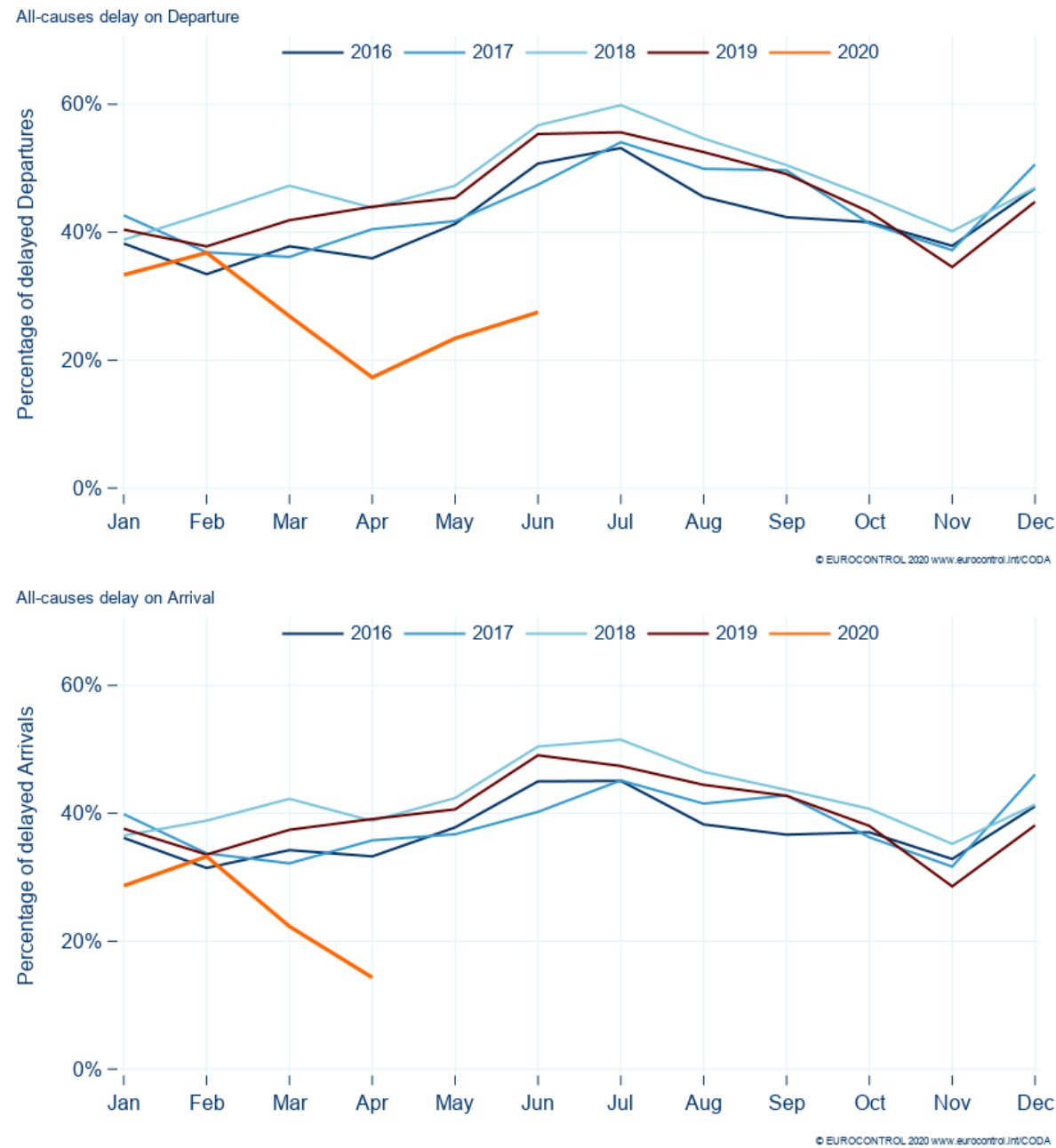
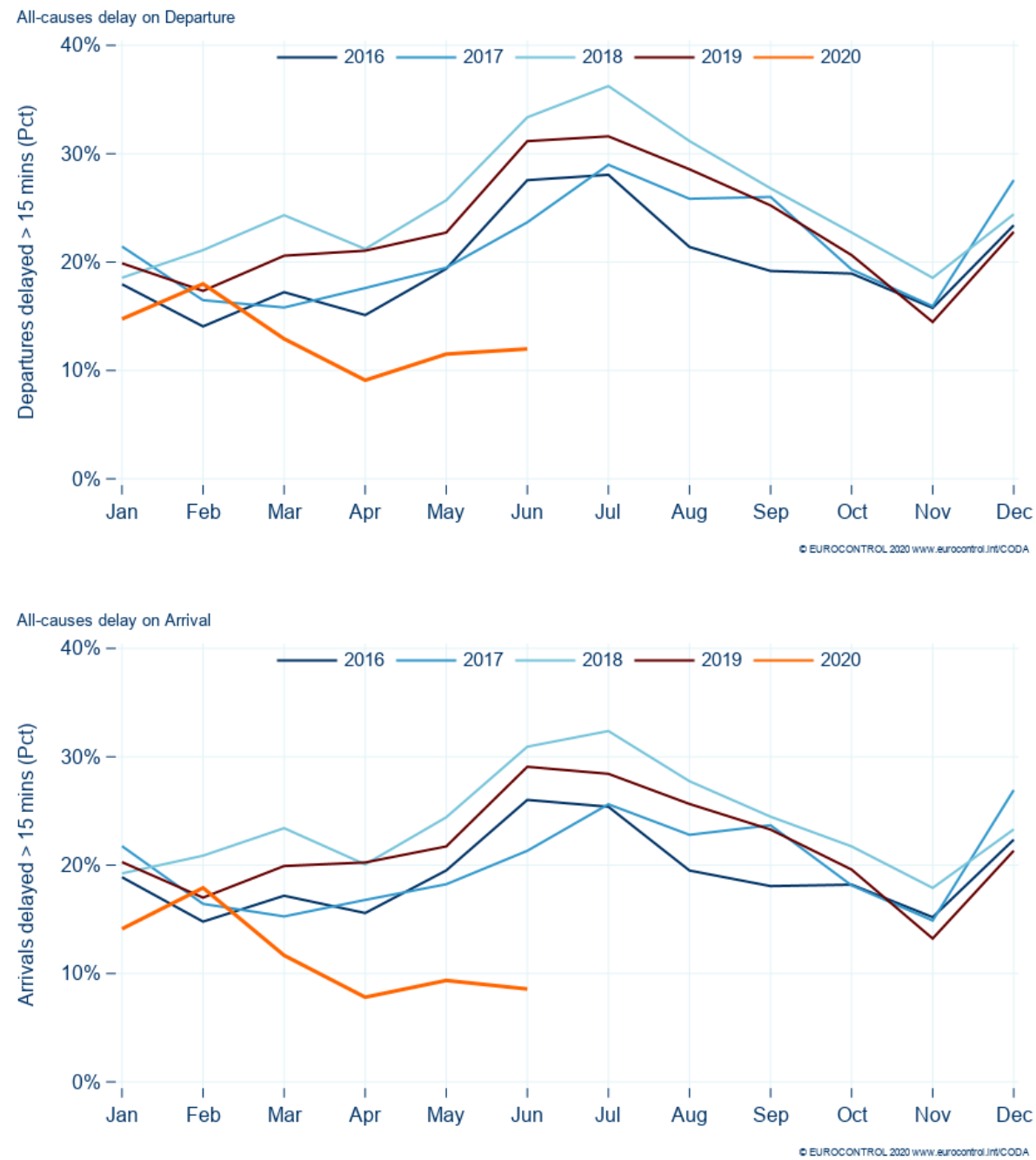


Figure 11. Percentage of flights delayed >15mins for all-causes (departures top, arrivals bottom)





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