

# A Problem With Measuring the Availability of Military Aircraft During the Coronavirus Pandemic

June 21, 2025

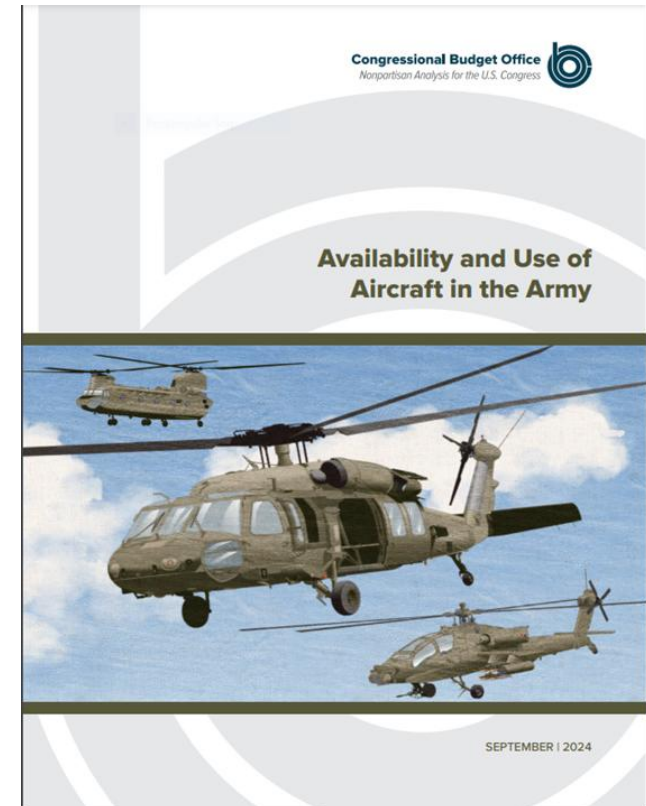
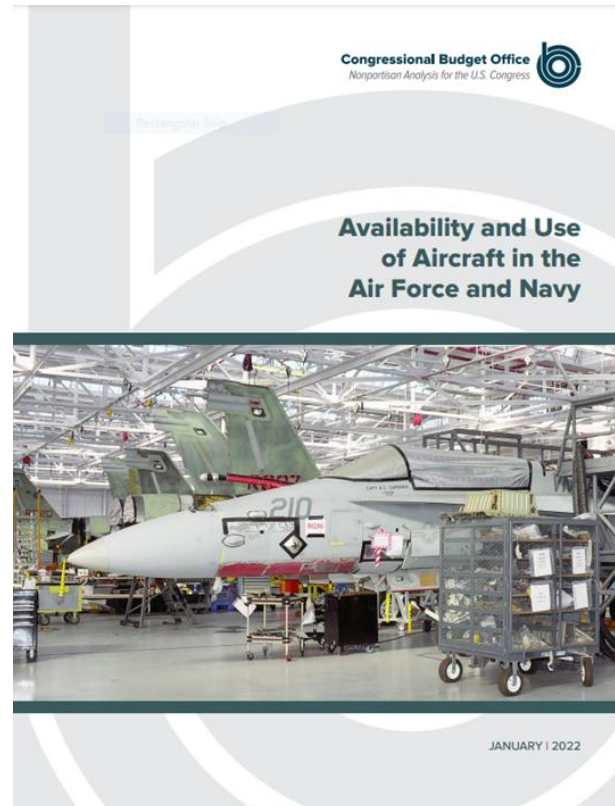
Presentation at the 100th Annual Conference of the Western Economic Association, International

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# CBO's National Security Division Has Produced a Series of Reports About the Availability and Use of Military Aircraft

This presentation synthesizes information from two such reports and discusses a problem with the data used in the analysis.



# **The Coronavirus Pandemic Provided the Basis for a Natural Experiment**

All the military services were affected.

Lockdowns began in mid-March 2020, sharply increasing the amount of work performed from home.

Economic activity increased in April 2021, after the wide uptake of vaccines.

# **Three Main Questions Are Addressed in This Presentation**

How did the pandemic affect the use of military aircraft?

How did the pandemic affect the availability of military aircraft?

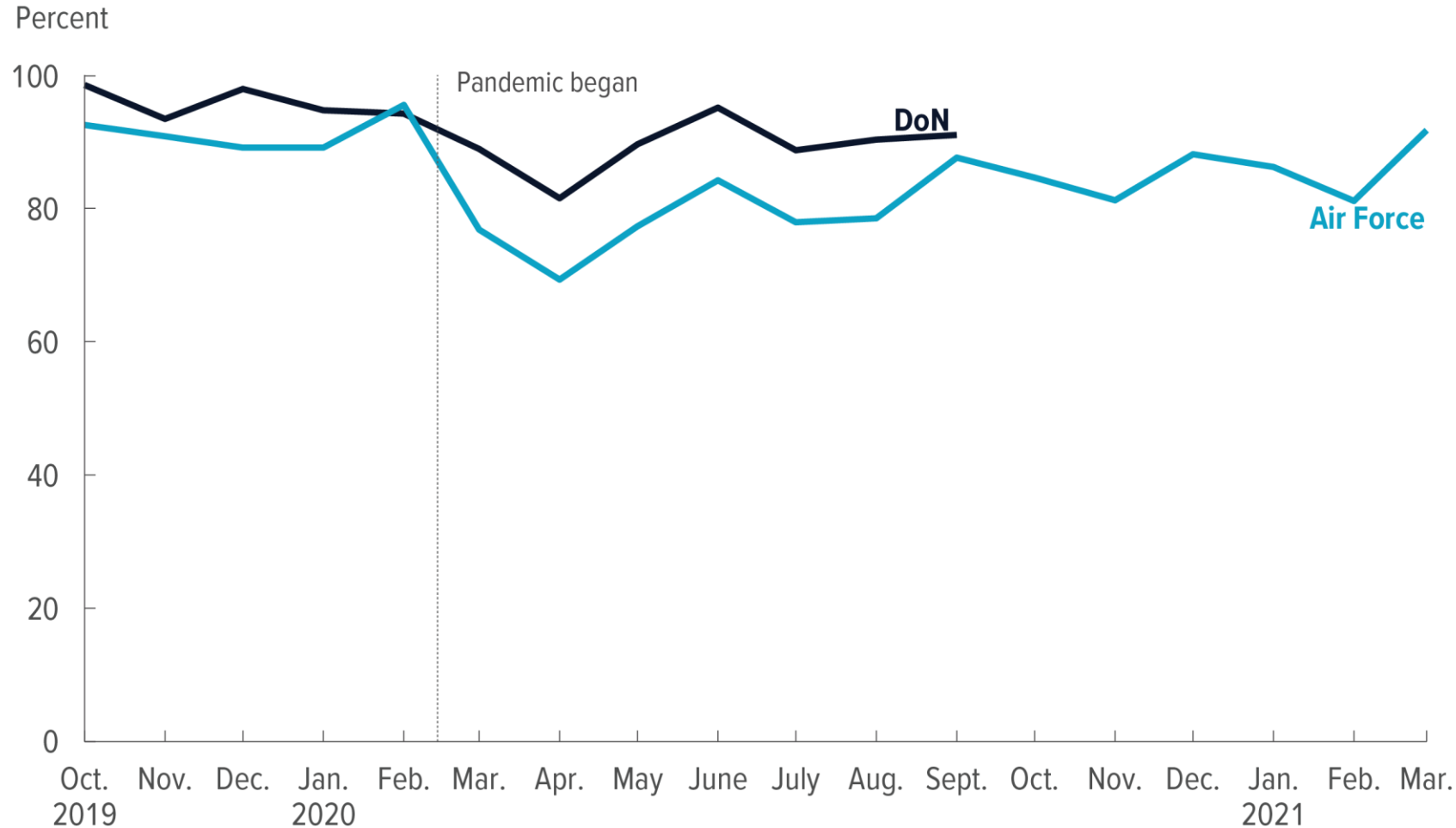
Is there a problem with the Department of Defense's measurement of aircraft availability?

# **The Pandemic's Effect on Aircraft Use**



# In April 2020, the Use of Aircraft Operated by the Air Force and the Department of the Navy (DoN) Declined Markedly

Monthly Flying Hours From October 2019 to March 2021 as a Share of Prepandemic Averages

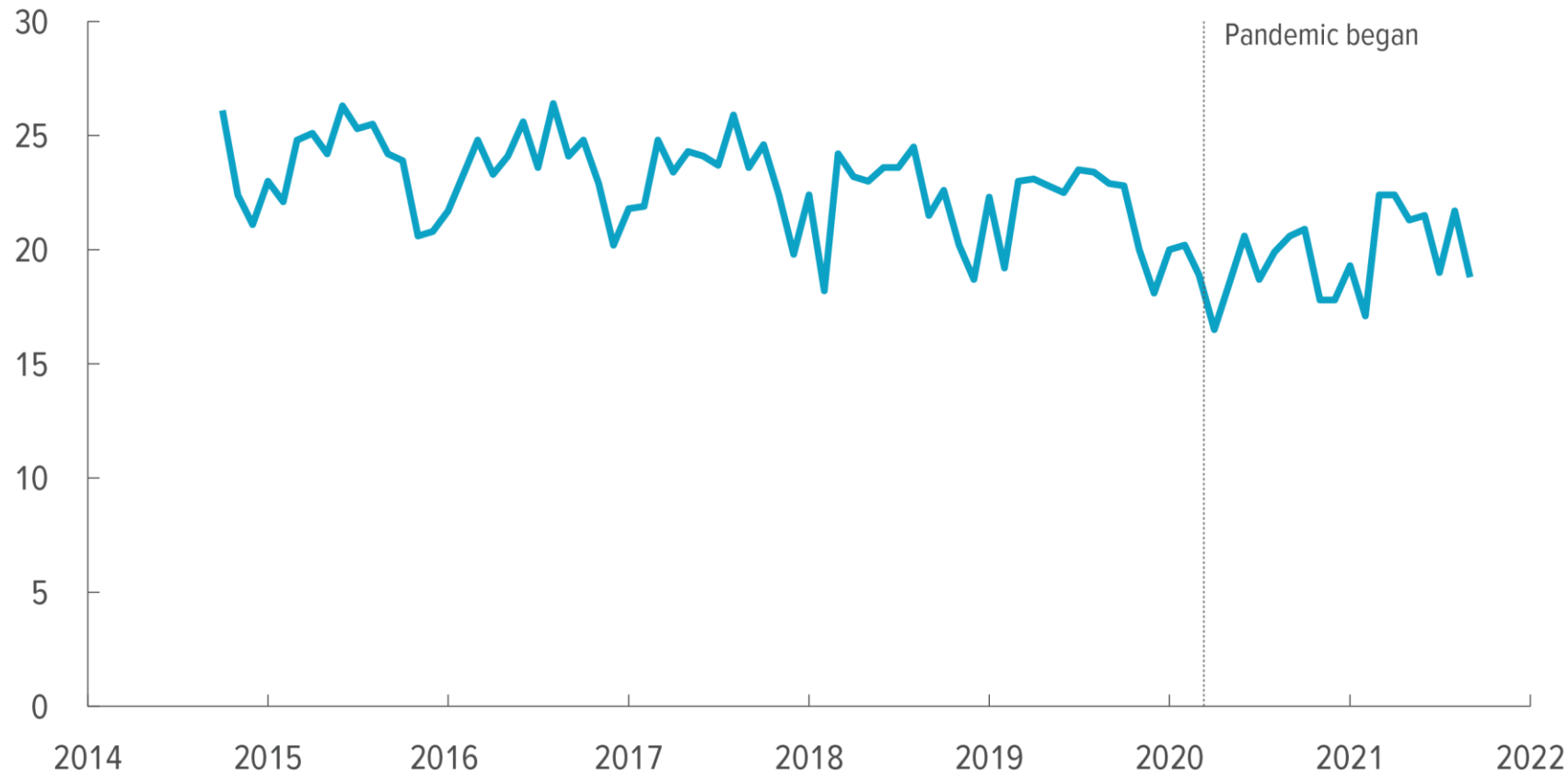


In April 2020, Air Force aircraft flew 69 percent as many hours per aircraft as they flew in a typical month of April during the preceding five years.

That same month, DoN's aircraft flew 81 percent as many hours per aircraft as they flew in a typical month of April during the preceding five years.

# In April 2020, the Air Force Logged the Fewest Flying Hours per Aircraft of Any Month During the Fiscal Year 2015–2021 Period

Flying hours per aircraft per month

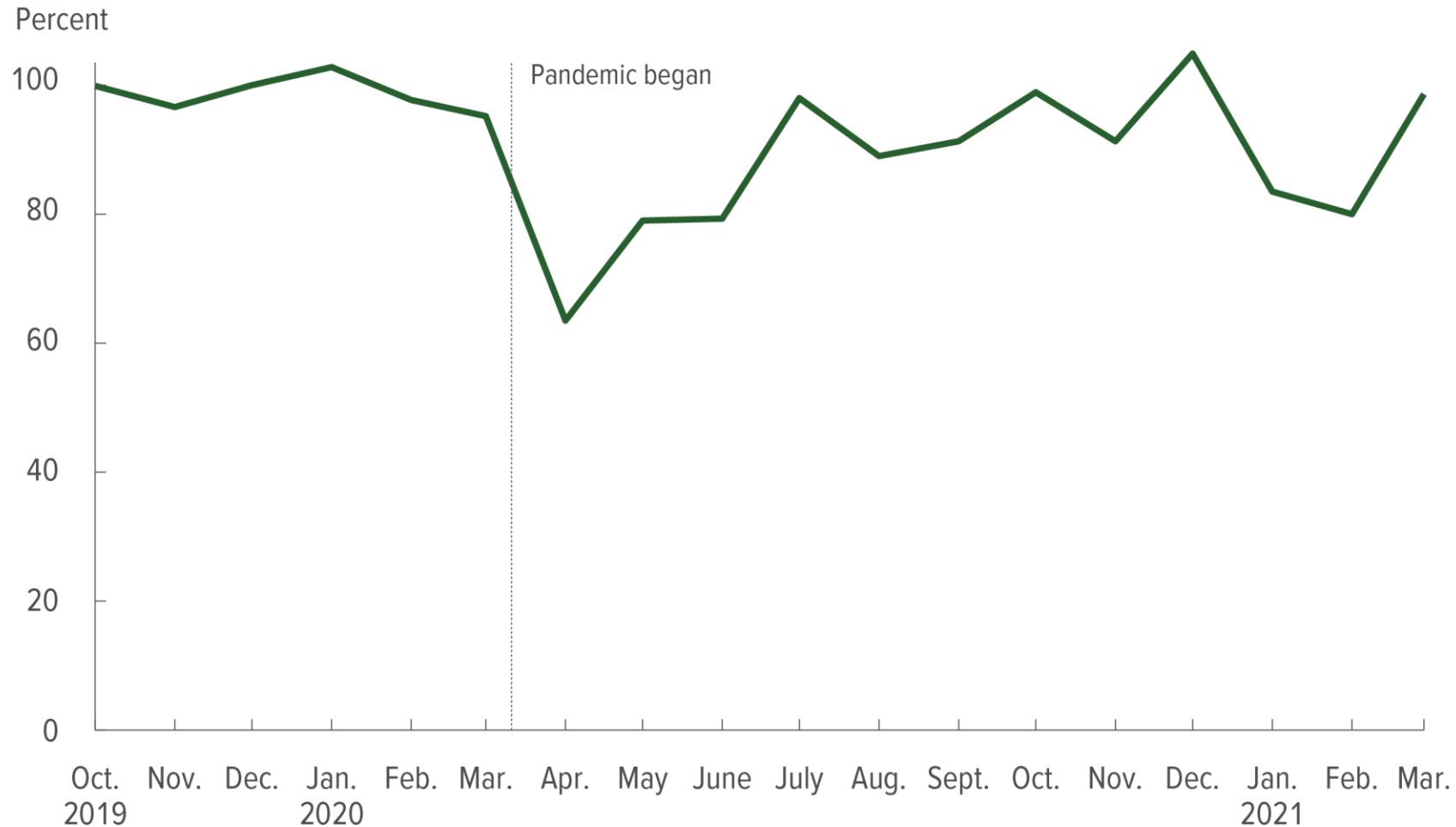


Aircraft use is seasonal, and a trough in flying hours usually occurs every December.

Nevertheless, the Air Force logged fewer flying hours in April 2020 than in any month of December during the fiscal year 2015–2021 period.

# The Use of Army Aircraft Also Decreased Sharply in April 2020

## Monthly Flying Hours From October 2019 to March 2021 as a Share of Prepandemic Averages



In April 2020, Army aircraft flew 64 percent as many hours per aircraft as they flew in a typical month of April during the preceding five years.\*

\* In measuring the availability and use of its aircraft, the Army designates months differently than the other services do. For the Army's purposes, for example, the month of April 2020 covers the period from March 16 to April 15, 2020.



# **The Pandemic's Effect on Aircraft Availability**

# **Aircraft Availability Is the Percentage of Time An Aircraft Can Be Flown on Training or Operational Missions**

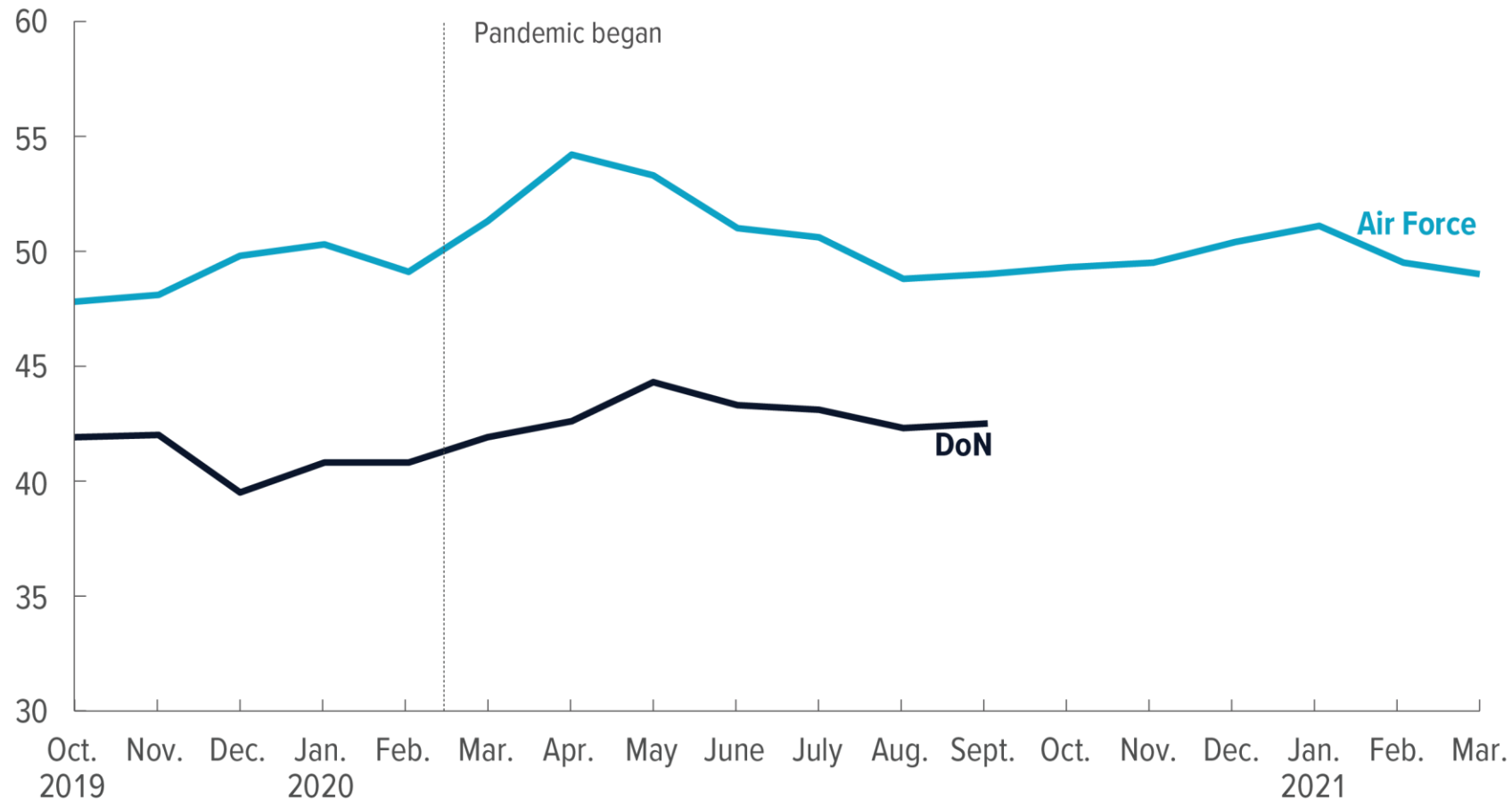
In the calculation of availability, the numerator equals the number of hours that aircraft are both mission capable and in the possession of operational squadrons.

The denominator equals the total possible hours of availability in a month for all aircraft in the fleet.

CBO's measure of availability counts aircraft that are receiving maintenance in a depot or in storage as being unavailable. The Department of Defense, however, often reports mission-capable rates that do not account for aircraft receiving maintenance in a depot.

# The Availability of Air Force and DoN Aircraft Increased After the Onset of the Pandemic

Fleetwide availability rate (percent)



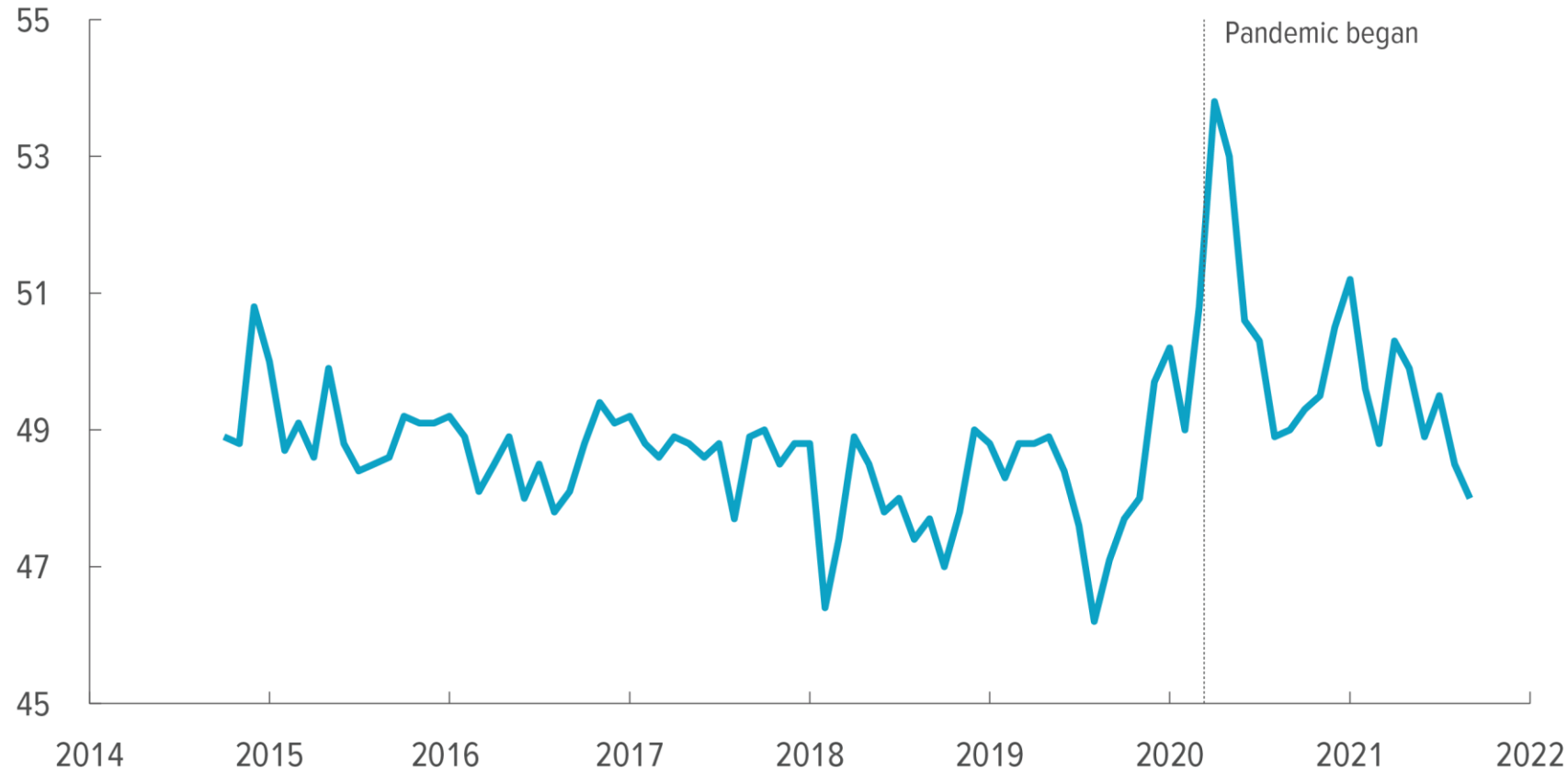
The Air Force's fleetwide availability rate was 49 percent in February 2020 and peaked at 54 percent in April 2020.

The fleetwide availability rate of DoN's aircraft was 41 percent in February 2020 and peaked at 44 percent in May 2020.



# In April 2020, the Air Force Saw the Highest Aircraft Availability Rate of Any Month During the Fiscal Year 2015–2021 Period

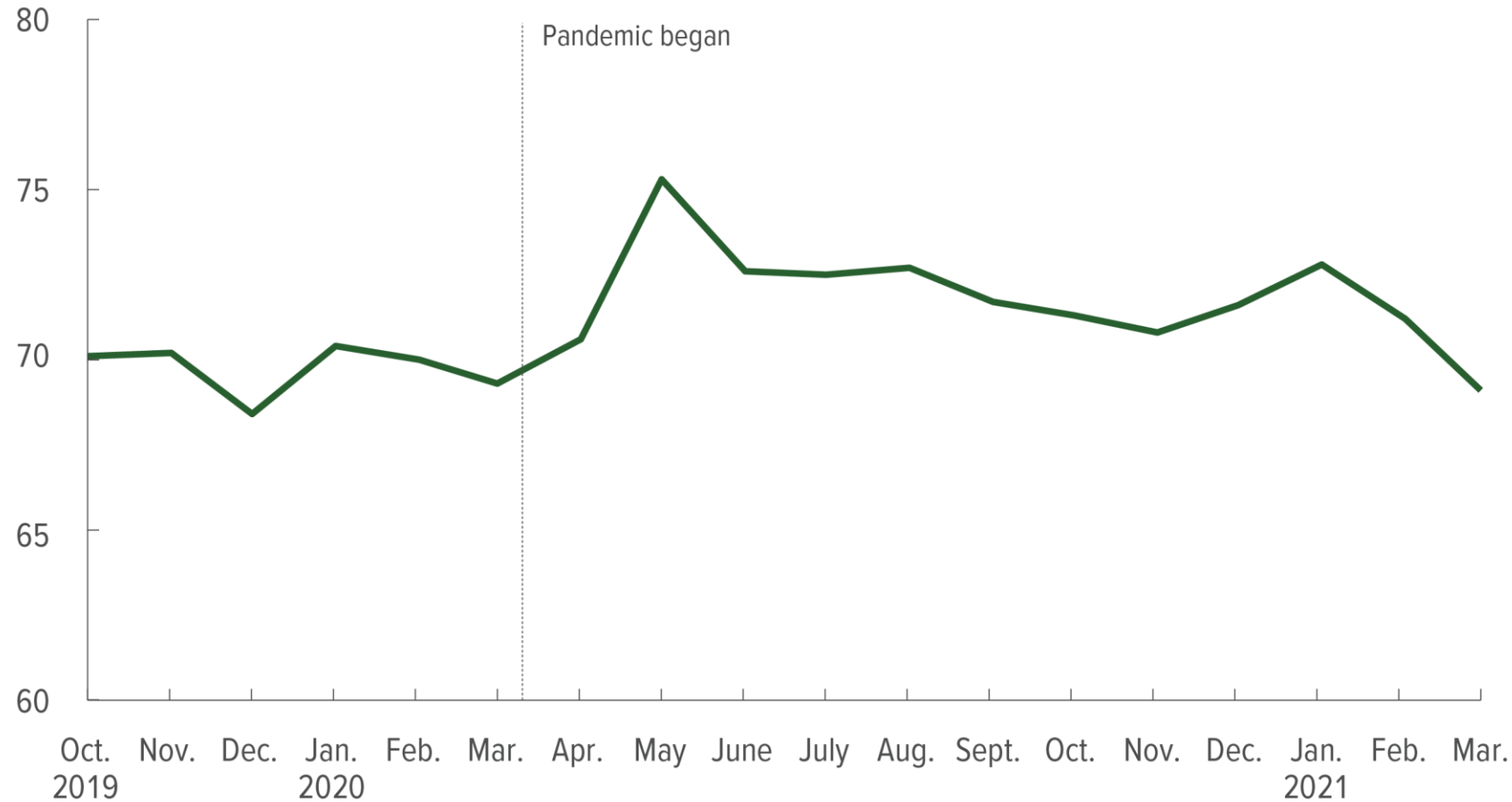
Fleetwide availability rate (percent)





# Likewise, the Availability of Army Aircraft Increased After the Onset of the Pandemic

Fleetwide availability rate (percent)



The fleetwide availability rate of the Army's aircraft was 69 percent in March 2020 and peaked at 75 percent in May 2020.\*

\* In measuring the availability and use of its aircraft, the Army designates months differently than the other services do. For the Army's purposes, for example, the month of May 2020 covers the period from April 16 to May 15, 2020.

# **A Problem With the Way the Department of Defense Measures Aircraft Availability**



# **An Aircraft's Availability Status Is Assessed When It Lands and When Someone Wants to Fly It Again**

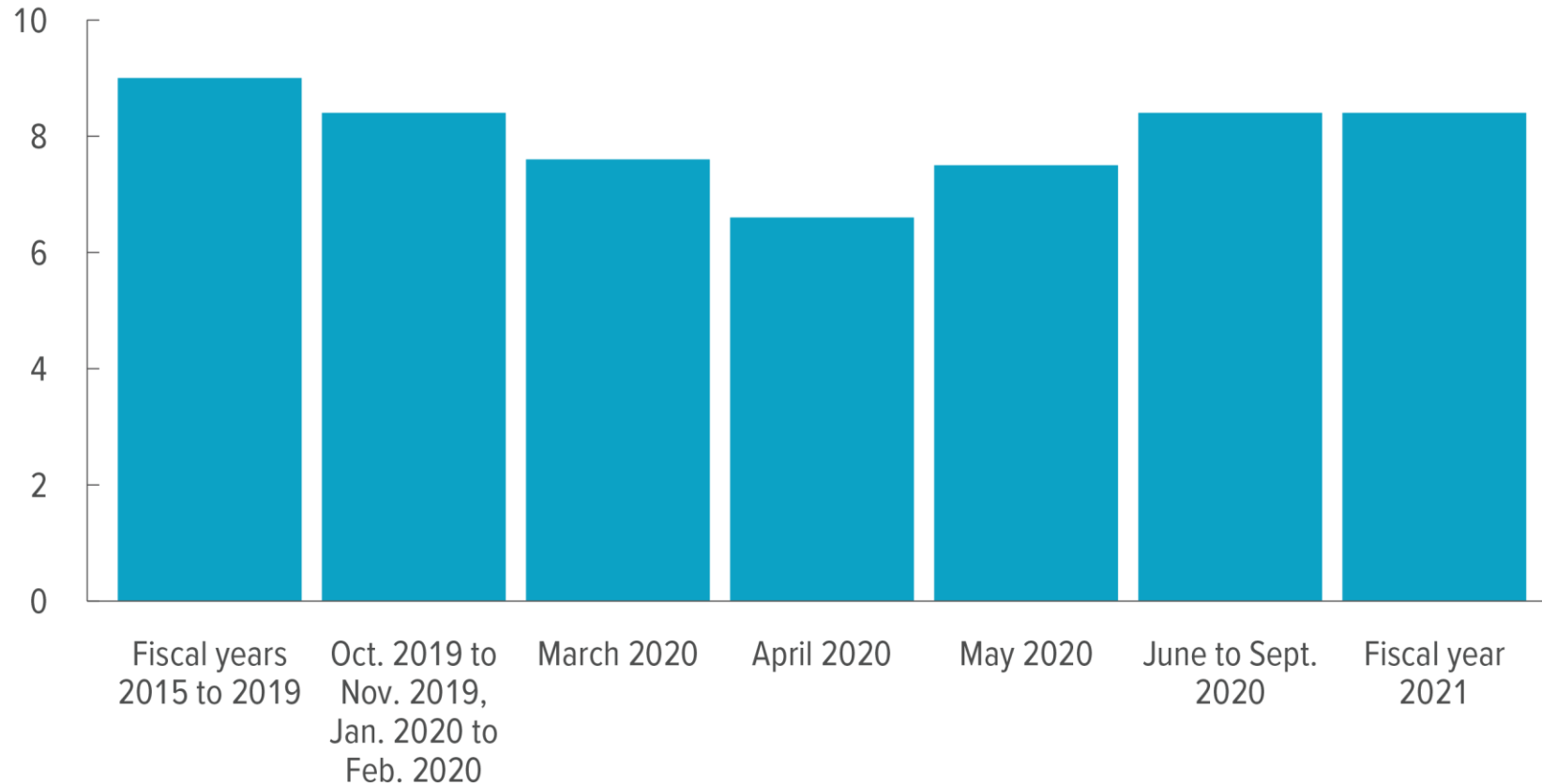
When an aircraft lands, its condition is reported as either mission capable or not mission capable.

The status of a mission-capable aircraft is typically not reassessed until someone wants to fly it again.

When someone wants to fly an aircraft, diagnostic checks are run that may reveal that the aircraft is, in fact, not mission capable.

# The Pandemic Reduced the Frequency With Which the Availability Status of Air Force Aircraft Was Assessed

Sorties per aircraft per month



Were more aircraft than usual miscategorized as being mission capable? Was the reported increase in aircraft availability during the pandemic spurious, at least to some extent?