EMPIRICAL ANALYSIS OF AIR TRAFFIC FLOW MANAGEMENT PRACTICES AND FLIGHT DELAY MITIGATION POTENTIAL IN THE BRAZILIAN AIRSPACE[1]

Ana Beatriz Rebouças Eufrásio[2]
Mayara Condé Rocha Murça[3]
Alessandro V. M. Oliveira[4]

ABSTRACT

Air Traffic Flow Management (ATFM) represents the measures adopted to deal with air traffic demand-capacity imbalances and one of its main objectives is to minimize the impacts of flight delays and their propagation on the system. However, their adoption is not necessarily sufficient to prevent delays occurrence. In this study, we develop an econometric model using Stata to assess the impact of ATFM measures on flight delay and investigate their delay mitigation capacity considering Brazilian domestic flights from 2019 to 2022. We focus on the main ATFM measure applied in Brazil, Miles-In-Trail (MIT), and explore if its adoption is able to mitigate delays when the air traffic system is facing disruptions such as congestions or adverse weather conditions. We found evidence that MIT is able to mitigate flight delays, but this behavior was only captured when the moderated effects of MIT with air traffic management and weather related parameters are considered.

Keywords: Air Traffic Flow Management, Delay, Airlines, Miles-in-Trail, Econometrics.

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[2] Presenter. PhD student in the Aeronautical Infrastructure Engineering program at the Aeronautics Institute of Technology, and Researcher at the International Council on Clean Transportation. E-mail: anabeatrizre@gmail.com. Phone Number: +55 11 911428807.
[3] Professor at the Aeronautics Institute of Technology. E-mail: mayara@ita.br.
[4] Professor at the Aeronautics Institute of Technology. E-mail: alessandro@ita.br.