



CLAC/GEPEJTA/57-NE/13

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**QUINCUAGÉSIMA SÉPTIMA REUNIÓN DEL GRUPO DE EXPERTOS EN CUESTIONES POLÍTICAS,
ECONÓMICAS Y JURÍDICAS EN EL ÁMBITO DEL TRANSPORTE AÉREO (GEPEJTA/57)**

(12-14 de noviembre de 2024)

Cuestión 3 del

Orden del Día: Transporte y política aérea

**Presentación y solicitud de apoyo para la propuesta de
reformulación del Índice de Competitividad de la Aviación Civil**

(Nota de estudio presentada por Brasil)

Introducción

1. El objetivo es invitar a los países miembros del grupo GEPEJTA a analizar el *Working Paper* y mejorar esta propuesta, que busca enfocar la atención en la construcción de un panel de referencia colaborativo en lugar del índice unificado actualmente utilizado. En nuestro análisis, el índice actual se muestra alejado de los objetivos originales del grupo *Aviation Competitiveness Working Group* (ACWG) del *Aviation Data Analysis Panel* (ADAP) de ICAO, limitando su eficacia como herramienta de desarrollo para el sector de la aviación.
2. Consideramos que el indicador en su forma actualmente propuesta tiene un enfoque excesivamente macroeconómico y tiende a reflejar más el desarrollo económico general de los países que la eficiencia y competitividad específicas de la aviación. Argumentamos que esto puede perjudicar la capacidad del índice de reflejar efectivamente la competitividad del sector. Además, consideramos que, debido a la limitación en la disponibilidad de las variables para todos los países, se seleccionaron diversas variables que no están directamente bajo el control de las políticas regulatorias del sector, lo que significa que la capacidad de influir y mejorar el índice puede verse comprometida, limitando así el alcance y la utilidad del índice de competitividad propuesto.
3. Nuestra propuesta consiste en enfocar la atención en la construcción de un panel de referencia colaborativo en lugar del índice único actualmente propuesto. El panel incluiría variables específicas del sector, independientemente de su disponibilidad para todos los países, y permitiría que cada país analizara individualmente cada variable, evaluara y la aplicara a su realidad actual. El panel cumpliría con los propósitos propuestos para el índice, superando las limitaciones del enfoque

actualmente en desarrollo. Además, sugerimos una amplia revisión de las variables seleccionadas para incluir indicadores más relacionados con el rendimiento operativo y la infraestructura del sector.

Desarrollo

4. Considerando lo expuesto, invitamos a los miembros del grupo GEPEJTA a revisar el documento completo adjunto y ofrecer sus contribuciones para que podamos construir un panel de referencia que represente efectivamente las capacidades y los desafíos de competitividad en el sector de la aviación civil y que apoye a los países en la adopción de mejoras efectivas en el sector. Además, solicitamos el apoyo de los países del grupo para avanzar con esta propuesta, reforzando un esfuerzo colaborativo para que se alcancen los objetivos del grupo.

Medidas Propuestas:

5. Se invita al GEPEJTA a:
- a. Tomar conocimiento del contenido del documento adjunto;
 - b. Proporcionar contribuciones para posibles mejoras del documento adjunto;
 - c. Apoyar nuestra propuesta de enfocar la atención en la construcción de un panel de referencia colaborativo en lugar del índice unificado actualmente utilizado y revisar las variables seleccionadas.



International Civil Aviation Organization

WORKING PAPER

AVIATION COMPETITIVENESS WORKING GROUP MEETING

1-2 December 2024 Riyadh, Saudi Arabia

ANALYSIS OF THE DEVELOPMENT OF THE AVIATION COMPETITIVENESS INDEX AND PROPOSITION OF ALTERNATIVE WAY FORWARD

(Presented by Brazil)

EXECUTIVE SUMMARY

This paper presents an analysis of the ongoing work undertaken by the ACWG, with particular emphasis on the complexities surrounding the definition of the index and the associated risk of failing to meet the group's foundational objectives. We advocate for the replacement of the unified index with a collaborative reference panel, alongside a thorough reassessment of the variables, to enable a more accurate and nuanced reflection of competitiveness and operational efficiency within the civil aviation sector, in alignment with the guidance set forth in A40-WP/247, as presented by the United Arab Emirates.

Action: The group is invited to:

- a) Take note of the contents of the working paper
- b) Evaluate replacing the current unified index format with a collaborative reference panel.
- c) Conduct a comprehensive review of the variables used, focusing on aspects that more directly correlate to the development of the aviation sector rather than on the general economic development of the countries.

2. INTRODUCTION

2.1 ACWG was established by ADAP at its third meeting (2021). The work originated after the A40 Assembly agreed that the proposal put forward in working paper A40-WP/247 (presented by the United Arab Emirates) to establish a Global Aviation Competitiveness Index be considered by the appropriate panels of the Organization (ADAP/3-WP 9 refers).

2.2 Agenda item 8 of the ADAP/3 meeting examined the proposal for the index. WP/9 (presented by the Secretariat) discussed recommendations and WP/16 (presented by the United Arab Emirates) furthered the proposal brought by A40-WP/247. The proposal to create the index received broad support from ADAP participants, along with comments and suggestions, and ACWG was tasked with the development of methodologies and data sources for its creation (ADAP/3 Report refers).

2.3 Since the group's first meeting, Brazil has actively contributed to seeking adequate indicators and an index that reflects the sector's competitiveness. However, we believe that the limitation in the availability of more technical and specific variables, as well as the product's limited effectiveness for its intended purpose, has hindered the index from evolving and fulfilling its initial objective. In this sense,

we understand that the chosen variables may not adequately capture the operational and structural factors that effectively influence the competitiveness of the civil aviation sector in each country.

2.4 Based on a detailed assessment, we consider that the scope of the selected variables has an overly macroeconomic focus, which may impair the index's ability to effectively reflect the sector's competitiveness. Additionally, several of the selected variables are not directly under the control of the civil aviation sector's regulatory policies, meaning that the ability to influence and improve the index may be compromised, thus limiting the goals of the proposed competitiveness index.

2.5 Competitiveness in the civil aviation sector should be linked to sector-specific factors such as operational efficiency, airport infrastructure, regulations and administrative processes, among others. While macroeconomic variables provide a broad view of countries' economic development, they do not directly explain a country's or its companies' ability to compete efficiently in the sector and may offer a distorted view of global aviation.

2.6 Furthermore, we believe that the global or regional ranking format based on a unified index does not adequately reflect the competitive capacity of aviation in each country. The limitations of the selected variables may not allow competitiveness to be fully captured by a standardized metric, thus limiting the index's purpose.

3. DISCUSSION

3.1 Although the participants have put considerable effort into developing the index and selecting the most appropriate metrics to be part of it, our understanding is that some challenges may hinder the ability of the index to achieve its purpose:

3.2 1) The challenge of finding relevant metrics available for all Member States.

3.3 A fundamental premise of this work is that the necessary underlying variables must be available to perform the index calculation, however, the number of Member States and their different levels of data availability has limited the number of metrics that could be considered, steering the group's choices towards a macroeconomic set of metrics. Since many relevant metrics are not widely computed for different states, nor have standard rules for its calculation, they cannot be considered for such an initiative. Therefore, the work had to focus not on the best information to calculate the index, but on what was available. Because of that, several important aspects had to be left out since they simply cannot be calculated for several countries.

3.4 2) The variables selected ultimately are not representative of aviation competitiveness

3.5 Due to the lack of metrics with available data, we consider that a significant portion of the metrics ultimately chosen to have little direct relation to the specific performance of civil aviation. Below, we highlight some groups of variables that were analyzed.

3.6 a) Preponderance of macroeconomic variables

3.7 The index heavily relies on macroeconomic variables that do not necessarily represent the issues of aviation. Variables such as GDP per Capita and Ease of Doing Business (and previously Credit Rating) represent broad economic factors that, although relevant for economic development analyses, do not capture the specific challenges faced by the aviation sector. These variables are beyond the direct control of companies and authorities operating in civil aviation, reflecting more the wealth and economic condition of each country than the sector's ability to operate efficiently and competitively.

3.8 These do not consider critical factors for aviation, such as operational efficiency, the quality of services provided, or the capacity for technological innovation. Moreover, a country's economic growth or sovereign credit rating may not translate into greater competitiveness in the aviation sector, making these variables less informative for the proposed index.

3.9 b) Indicators beyond the control of Aviation Authorities

3.10 The index includes several variables that are beyond the capacity of the aviation sector to influence within a country. Variables such as the Connectivity Index and Connecting Passenger are important examples. These variables are heavily influenced by a country's geographical position, which may create a distortion when evaluating the sector's competitiveness. States that, due to geographical reasons, occupy strategic positions on global routes tend to show better connectivity indices, regardless of their direct competitive capacity. Furthermore, these variables are not directly under the control of the Member States, meaning that conclusions and actions drawn from the proposed index may be limited. While connectivity is a relevant aspect of competitiveness, it should be evaluated in conjunction with other more specific variables.

3.11 c) Tests with Principal Component Analysis (PCA)

3.12 To deepen our analysis, we conducted tests using the same technique applied by ACWG (Principal Component Analysis - PCA) and the data provided by the Secretariat. Our results confirmed the predominance of macroeconomic variables as determinants for the model's validity. The absence of these variables led to counterintuitive results. This reinforces our view that the index is more related to the economic wealth of countries than to the specific competitiveness of civil aviation.

3.13 3) The lack of comparability among States

3.14 Attributing an index for competitiveness and comparing all States using that index may prove unfruitful. Every state is different, and different states have different purposes and expectations in relation to their aviation sector. Comparing different countries with different purposes for aviation using one same index, especially if this index is based on criteria out of the control of the authorities, may not be useful for any of the States. Calculating the competitiveness index for each region would also fail to solve the problem, since every region has States with different characteristics among them.

3.15 4) The difficulty for a state to use the index for the improvement of its aviation sector

3.16 One of the main reasons for the creation of the index would be to provide States with a tool to improve their aviation sectors. However, States willing to use the index to improve their aviation system may find it difficult. Since the result is a single number, and there are many variables included – several of which are out of the capacity of the authorities to control – improvements made by the authorities may be completely overshadowed if something else changes, such as the GDP.

4. PROPOSED ALTERNATIVE AND WAY FORWARD

4.1 Considering the limitations presented above, we suggest a reformulation of this initiative.

4.2 We propose that instead of the development of the index, the efforts of the group are turned into the creation of a panel of independent reference metrics. Instead of working on the creation of a formula to try to quantify competitiveness in a single number for each state, Brazil suggests the group focuses on identifying aspects of the aviation sector that more closely correlate to its development, regardless of the

availability of data for every country, and then compile a basket of these indicators that can be consulted by all states.

4.3 After the definition of roll of indicators and the methodology to standardize its calculation, states willing and ready can share their data, so that the indicators will provide reference values that can be consulted by other states.

4.4 Since the indicators in this list would be completely independent of each other, they can be evaluated independently, and even states that don't have the data available can evaluate internally and benchmark their strengths and improvement areas.

4.5 This initiative has the following benefits that overcomes the limitations of the index:

4.5.1 Data availability: Since there will not be a need for the metrics to be available for each state, there is potential for a much greater set of metrics to choose from. In fact, since the metrics are independent, the list can change over time to include new parameters considered useful or to exclude old ones.

4.5.2 Selection of indicators directly related to aviation: This approach would greatly improve the ability to choose aviation related metrics, because even if a metric is only available for a small set of states, that would not be a problem for including it in the list. That would mean that we can focus on specific aspects of efficiency, development and more.

4.5.3 Since we will not create an index, the problem of assigning weights to the each variable on the index cease to exist

4.5.4 Comparability: Since each metric will be available for the States to use as reference, different states can consider only those that seem relevant to its own situation and objectives.

4.5.5 Easier use by states and greater chance to impact positive changes on the system: States willing to use the data, can simply take the reference values and compare to their own values calculated according to ACWG reference methodology.

4.6 In summary, this panel would allow each country to individually analyze each variable, assess it, and apply it to its current reality. This would enable a more detailed study on how to improve specific indicators, allowing for a more personalized and effective approach to the sector's development. It would allow countries to identify their strengths and weaknesses in a more granular way, enabling them to prioritize improvements in specific variables that are more relevant to their conditions. Furthermore, a panel would offer flexible analysis, as each country could focus on the variables most critical to their context, facilitating the implementation of more targeted and effective policies, aligned with the original objectives of the index proposal. This approach would also foster a deeper understanding of the factors influencing competitiveness, contributing to more informed and robust development strategies. That would also be aligned with the No Country Left Behind initiative.

4.7 LIST OF METRICS

4.8 We recommend that the ACWG concentrate its current efforts on defining the list of metrics to be included in the panel. Nevertheless, for exemplification purposes, we present some suggestions that can be evaluated by the group, along with others that may be suggested by other participants:

4.9 Costs

- Airport and air navigation fees: Directly impact the operational costs of airlines.
- Taxes paid by airlines: Affect profitability and ticket prices, influencing international competitiveness.
- Aviation fuel costs: The largest cost for many airlines.
- Aircraft maintenance costs per flight hour: Costs associated with the continuous operation of aircraft.

4.10 Infrastructure

- Number of airports weighted by passenger volume: Assesses the adequacy of airport infrastructure relative to passenger demand.

4.11 Safety

- USOAP: Compliance with ICAO aviation safety standards.
- USAP: Compliance with ICAO aviation security standards.

4.12 Operational

- Passenger volume weighted by population size: Assesses the growth of air transport in relation to the population, measuring the sector's accessibility and popularity.
- Number of international destinations served and number of direct connections: Reflects a country's global connectivity, essential for evaluating competitiveness in terms of reach and flight options.
- Load Factor (RPK/ASK): Indicator of operational efficiency of airlines.

4.13 Regulatory Environment

- Visa requirements: Facilitates or hinders the entry of tourists and business travelers, directly impacting demand for international flights.

4.14 Financial

- Passenger yield: Revenue generated per passenger, essential for understanding the sector's profitability.
- Net profit margin: Assesses the financial health of airlines, a crucial indicator of sustainability and competitiveness in the sector.

5. CONCLUSION

5.1 The limitation in the availability of variables has prevented the index from evolving and meeting its initial objective. As currently structured, the index tends to reflect the overall economic development of countries rather than the specific efficiency and competitiveness of aviation. Furthermore, the choice of variables not directly under the sector's control limits the usefulness of the index and prevents its use as a tool for a country self-improvement. We also highlight that the current format of ranking countries based on a unified index may not adequately reflect the competitive capacity of each country.

5.2 We present the alternative of changing the format from a single index that ranks countries to a collaborative reference panel. The panel would include sector-specific variables, regardless of their availability to all countries, and would allow each country to individually analyze each variable, assess it, and apply it to their current reality. The panel would meet the purposes proposed for the index, overcoming the limitations of the approach currently being developed.

5.3 Finally, we suggest a broad review of the selected variables to include indicators more related to the sector's operational performance and infrastructure. The proposed approach will enable the creation of a reference panel that truly reflects the capacity of countries and their airlines to compete on the global stage, providing a more precise and useful tool for decision-making by countries.

(RECOMMENDED ACTIONS)

The group is invited to:

- a) Take note of the contents of the working paper
- b) Consider replacing the current unified index format with a collaborative reference panel.
- c) Broadly review the variables used, focusing on aspects that more directly correlate to the development of the aviation sector.

— END —