



ASSEMBLY — 40TH SESSION

ECONOMIC COMMISSION

Agenda Item 34: Aviation Data — Monitoring and Analysis

AVIATION SATELLITE ACCOUNT

(Presented by the Council of ICAO)

EXECUTIVE SUMMARY

This working paper presents a methodological framework of the Aviation Satellite Account (ASA), which can be used for the measurement of the direct economic contribution of aviation to national economy, in line with the internationally-agreed standard of the *System of National Accounts, 2008* (2008 SNA). The establishment of the ASA enables States to make data-driven policy-making and evaluation for aviation development planning. The paper also presents ICAO's future work in this area, including the finalization and validation of the ASA methodological framework, obtaining the endorsement of the ASA methodological framework by the United Nations Statistical Commission (UNSC), raising the awareness of the ASA and promoting its acceptance by States, and providing assistance for the ASA implementation by the Member States.

Action: The Assembly is invited to:

- a) review the ASA methodological framework described in paragraph 2;
- b) endorse the Organization's work programme as presented in paragraph 3; and
- c) consider the information contained in this paper for the update of Assembly Resolution A39-15, Consolidated statement of continuing ICAO policies in the air transport field.

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| <i>Strategic Objectives:</i> | This working paper relates to Strategic Objective — <i>Economic Development of Air Transport</i> . |
| <i>Financial implications:</i> | The activities referred to in this paper will be undertaken subject to the resources available in the 2020–2022 Regular Programme Budget and/or from extra budgetary contributions, including the Voluntary Air Transport Fund (TRAF). |
| <i>References:</i> | Doc 10075, <i>Assembly Resolutions in Force</i> (as of 6 October 2016) Doc 10078, <i>Report of the Economic Commission of the 39th Session of the Assembly</i> <i>System of National Accounts, 2008</i> (2008 SNA) https://unstats.un.org/unsd/nationalaccount/sna2008.asp Methodological Framework for Tourism Satellite Account (TSA) https://unstats.un.org/unsd/tradeserv/tourism/manual.html <i>A preliminary version of the ASA Methodological Framework Document</i> https://www.icao.int/Meetings/A40/Pages/documentation-reference-documents.aspx <i>Aviation Benefits Report 2019</i> https://www.icao.int/Meetings/A40/Pages/documentation-reference-documents.aspx A40-WP/22-EC/7, Consolidated statement of continuing ICAO policies in the air transport field ICAO Business Plan 2020–2022 |

1. INTRODUCTION

1.1 Aviation spurs economic growth by creating jobs and facilitating international trade and tourism, as well as generates various social benefits. Notwithstanding these socio-economic benefits brought by aviation, its importance to national economy appears not to be fully understood by States and the public due mainly to the acute shortage of reliable economic information related to aviation.

1.2 While some researches and analyses were made to estimate the contribution of aviation to Gross Domestic Product (GDP) and jobs (for example, the *Aviation Benefits Report 2019*), there has been no internationally-agreed methodological framework to measure them. Consequently, the credibility, reliability, robustness and accuracy of such estimations are often questioned and challenged.

1.3 Recognizing the need to better showcase the socio-economic benefits of aviation, and thus raising the profile of aviation in a State, the 39th Session of the Assembly requested “*the Council to instruct the Secretary General to develop a methodological framework for the economic measurement of aviation activity, including aviation’s contribution to GDP, the number of jobs created by aviation, aviation consumption, and the impact of aviation on balance of payments*” (A39-15, Doc 10075 refers).

2. AVIATION SATELLITE ACCOUNT METHODOLOGICAL FRAMEWORK

2.1 The “Aviation Satellite Account” (ASA) methodological framework aims to measure an economic impact of aviation on national economy in line with the *System of National Accounts, 2008* (2008 SNA) adopted by the United Nations Statistical Commission (UNSC) – an internationally-agreed statistical framework that provides a comprehensive, consistent and flexible set of macroeconomic accounts for policy-making, analysis and research purposes. The preliminary version of the ASA methodological framework document, which is subject to approval by the Air Transport Committee (ATC), is provided as reference material to the Assembly.

2.2 The term “satellite account” refers to an account that is closely linked to the SNA but is not bound to employ exactly the same concepts or restricted to data expressed in monetary terms. A satellite account covers a specific industry or sector of particular importance to national economy. Many elements shown in a satellite account are invisible in the national accounts. Either they are explicitly estimated in the making of the national accounts but are merged for presentation in more aggregated figures, or they are only implicit components of transactions which are estimated on an aggregated basis.

2.3 Some sectors have already developed or are in the process of developing satellite accounts, for example, the Tourism Satellite Account (TSA) methodological framework developed by the World Tourism Organization, the Organisation for Economic Co-operation and Development, the Statistical Office of the European Communities and the United Nations Statistics Division (UNSD); the System of Environmental-Economic Accounting (SEEA) developed by the groups under the UNSD, and the ongoing work of the Cultural Satellite Account by the United Nations Educational, Scientific and Cultural Organization.

2.4 The development of the methodological framework of the ASA was carried out by the Expert Advisory Group (EAG) under the Aviation Data and Analysis Panel (ADAP). The EAG was comprised of aviation data experts and national accounts specialists of States, the UNSD and International Organizations. The group has taken extensive advice from the UNSD. Economic accounting results using

this methodological framework are validated by the EAG with available information in States as well as other estimates.

2.5 Similar to the TSA, the ASA methodological framework adopts the basic system of concepts, classifications, definitions, tables and aggregates of the 2008 SNA, and at the same time allows for the harmonization and reconciliation of aviation statistics from a national accounts perspective. This enables the generation of aviation economic data (such as aviation direct gross value-added (GVA) and aviation direct GDP) that is comparable with other macroeconomic statistics in the SNA.

2.6 The ASA first defines the activities of aviation industry and the products that are supplied by the aviation activities, as well as the products that are used by the aviation activities to produce their output. As aviation is not listed as an industry in the national accounts, aviation activities are invisible as secondary activities of various industries. The measurement of aviation activities, therefore, requires extracting such invisible information from the national accounts. The 2008 SNA uses the International Standard Industrial Classification of All Economic Activities (ISIC) to classify activities, and the Central Product Classification (CPC) to classify goods and services; thus, the definitions of aviation activities and products in the ASA are further mapped with the ISIC and the CPC in order to identify them in the national accounts.

2.7 The ASA consists of a set of tables, including the Supply and Use Tables (SUTs) that are an integral part of the 2008 SNA. The SUTs are prepared to estimate aviation's direct GVA and GDP, etc.; describing: a) how products (goods and services) are brought into national economy (either as a result of domestic production or imports from other countries); and b) how those same products are used (as intermediate consumption, household final consumption, non-profit institutions serving households, general government final consumption, gross capital formation and exports). Other tables in the ASA are prepared to cover the generation of additional elements, both monetary and non-monetary, such as data on employment and indicators of output.

2.8 These tables that make up the ASA provide the comprehensive, relevant economic information related to the size of aviation in national economy, inter alia:

- a) macroeconomic aggregates that describe the direct economic contribution of aviation such as aviation direct GVA and GDP, and its comparison with the size of other industries;
- b) detailed aviation consumption of products supplied by associated industries as intermediate input to provide aviation outputs;
- c) balance of payments, compensation to employees, taxes raised by aviation and subsidies received by aviation;
- d) gross capital formation, including fixed assets such as aircraft and airport facilities; and
- e) non-monetary information on aviation such as the number of jobs created by aviation, air traffic generated, the number of aviation users, and their linkage.

It should be noted that the ASA is mainly descriptive in nature and does not include any measurement of the indirect and induced impacts of aviation on national economy.

2.9 States can use the above economic information to improve understanding and raise awareness of aviation's importance relative to an overall economic activity, as well as inter-dependencies of aviation with other economic sectors that involve in the production of goods and services consumed by aviation.

2.10 The ASA enables States to make data-driven policy-making and evaluation for aviation development planning that is linked with national and/or regional development frameworks and strategies. Furthermore, financial institutions and investors will be able to use these data to estimate, for example, the GVA of the government budgets (taxpayers funding) and private investment in the aviation sector.

3. FUTURE WORK

3.1 The ASA methodological framework presented in this working paper, subject to approval by the ATC, can be considered as the international standards for the aviation economic accounting. The future work on the ASA (a part of the aviation data and analysis work programme) will focus on the following:

- a) finalizing the ASA methodological framework and validating the reconciliation of various data to measure an economic impact of aviation activity in line with the SNA;
- b) obtaining the official endorsement of the ASA methodological framework by the UNSC;
- c) in coordinating with the UNSD, raising the awareness of the ASA and, after the ATC approval, promoting its acceptance by States, including national statistical offices, central banks, transport authorities and other ministries in charge of related portfolios such as finance, economic planning and trade;
- d) providing technical assistance for States through trainings, capacity building and appropriate outreach when required;
- e) establishing clear linkage between the ASA and other satellite accounts such as the TSA and the SEEA;
- f) exploring the possibility to develop a Transport Satellite Account methodological framework which incorporates aviation and other modes of transport; and
- g) developing guidance on the measurements of the indirect and induced impacts of aviation on national economy.