Value added from State financial support to aviation

Government financial support is provided on an extraordinary scale including means such as grants, loans and guarantees, hence it is crucial for States to evaluate the benefits and risks associated with these measures and ensure that resources are used efficiently. It is also important for States to understand and assess how these actions will support aviation businesses and jobs, and as well how they will bolster the national economy as a whole.

Aviation generates economic growth, creates jobs, and facilitates international trade and tourism. Prior to the COVID-19 crisis, the aviation industry contributes USD 2.7 trillion to the world GDP and supports 65.5 million jobs globally (direct, indirect, induced and tourism-connected). The current state of the industry risks the loss of economic driver and millions of jobs at national, regional and global level.

Broad-based, coordinated government financial stimulus would be an effective tool to support the financial and functional operability of the industry. Nevertheless, the scope and scale of support will depend on State's capability and capacity to finance these measures, and due consideration should be given to the value creation for the national economy including those of the aviation industry and beyond.

Value creation varies according to the scope and scale of financial support provided. States need to examine different options to support the industry and devise an equitable solution generating win-win situation for all stakeholders. Calculation of the value added generated from diversified financial support can assist States to assess the level of intervention for the achievement of desirable outcome.

Value added calculation methodology

In order to illustrate the total value added to the national economy can be created from government financial support to prop up airline industry, the application will first estimate the direct value added to be generated by airlines and other aviation activities such as airports and air navigation services providers, based on which the indirect, induced and catalytic value added of other sectors related to aviation can be modulated. Direct value added of aviation depends on the industry's operation profit which directly related to the operating revenues and costs. The following steps explained below will arrive at the value added estimation.

It should be noted that the analysis focuses primarily on direct cash injections such as grants and loans which provide discretionary cash spending and have an immediate effect on the balance sheet while excluding the deferral of tax payment which involves a temporary delay of revenue.

1. Assumption of traffic level and fuel price

Operating revenues are mainly affected by traffic level while operating costs are impacted by both traffic as well as the fuel price. The plunge in passenger and cargo traffic due to the COVID-19 pandemic has resulted in significant deterioration in airlines revenues. As the degree of traffic reduction varies by airline and by State, and the fuel price is also volatile from time to time, assumption of traffic level and fuel price is a premise for estimating the financial impact on airlines. To set the basis for the estimation,

expectation of traffic and fuel price changes in current year, i.e. 2020, compared to 2019, need to be defined according to the assessment of the ongoing situation.

Four assumptions need to be made on a) expected percentage reduction in passenger demand (RPK) compared to 2019, b) expected percentage of capacity (ASK) to be retained compared to 2019, c) expected percentage reduction in cargo demand (CTK) compared to 2019, and d) percentage reduction in fuel price compared to 2019.

2. Estimation of airline operating financials

Based on the assumptions of impact on traffic, the 2020 traffic can be calculated by applying the percentage change to 2019 actual traffic. Key indicators include RPK, ASK, RTK, ATK, MTK, CTK, CATK, passenger load factor, weight load factor and break-even weight load factor.

The change of airline operating revenues 2020 from 2019 of passenger, cargo and miscellaneous can be estimated by the same/adjusted percentage change in traffic to 2019 operating revenues which can be obtained by looking at the airline annual report. Similarly, each item of the operating expenses such as flight crew salaries, maintenance and overhaul and user charges can be calculated in proportion to traffic. In addition, estimation of fuel cost also needs to take into account the change in fuel price as defined in Step 1. Operating profit can then be computed.

3. Estimation of cash deficit

Under the extreme circumstances, airlines normally make a range of efforts from operational to financial to boost cash position. Different measures have different effect, and usually can result in reduction of controllable costs and/or increase in passenger/cargo yield. As the form of measures taken by airlines vary from each other, assumptions are required for the expected extent of the effect which will directly impact the cash position of airlines - the basis for determination of the scope and scale of State's financial support. Based on the estimations of percentage reduction in controllable costs, percentage increase in passenger yield and percentage increase in cargo yield, the cash deficit of airlines can be calculated.

4. Estimation of direct value added

Economic activities that are directly attributed to aviation industry comprise those of not only airlines, but also airports, air navigation services providers (ANSPs), as well as other stakeholders in the industry. The bailout of airlines will allow the industry to continue business operations and provide air transport services to consumers. Airports can benefit from the continued and increased traffic with revenue generation from the airport charges to airlines as well as potential non-aeronautical revenues from concessions. Furthermore, the ANSPs can also retain revenues from providing the air navigation services to airlines. Ultimately, financial support to airlines will bring sequential benefits to all economic activities that are directly attributed to aviation industry.

State's financial support to airlines to provide relief to the cash deficit such as grants, loans and subsides plus the additional compensation to employees can be considered as direct value added of airlines.

To estimate the direct value added of other activities of the aviation industry, 'Aviation Satellite Account' can be used to obtain information of value added of each activity in the pre-COVID-19 account, and calculate the ratio of value added between airlines and each other activity. Value added for airports, ANSPs, and other stakeholders can be arrived by applying the ratio on the direct value added of airlines.

States are strongly encouraged to apply the ICAO Recommended Aviation Satellite Account Methodological Framework to set up its own account in accordance with international standard, and ensure the international compatibility of information.

5. Indirect, induced and catalytic value added

The economic benefits of aviation extend much further than the industry's direct impacts, and can contribute to the wider national economy in terms of GDP and jobs. The indirect, induced and catalytic value added can be modulated based on the direct value added of aviation industry by applying estimated ratio from available economic impact analysis of aviation such as the Aviation Benefits Report.

Indirect value added

The indirect impacts include employment and economic activity generated by suppliers to the aviation industry such as aviation fuel suppliers, construction companies that build airport facilities, suppliers of subcomponents used in aircraft, and a wide variety of activities in the business services sector.

Induced value added

The spending of those directly or indirectly employed in the aviation sector supports additional jobs in other sectors such as retail outlets, companies producing consumer goods and a range of service industries (for example, banks, telecommunication providers and restaurants).

Catalytic value added

Furthermore, many other industries rely on effective air transport links to function. Apart from the direct, indirect and induced benefits, aviation's impact on other industries improves the efficiencies in a wide spectrum of economic activities, for example tourism.

ICAO value added calculator

The ICAO value added calculator transforms the aforementioned steps in the methodology into an application and provides an interactive interface for simulating the calculation of value added to be potentially created from States' financial support to aviation as well as visualizing the results. Data of the pre-defined parameters are set at global level by default to provide referencing indication, and can be modified as per users' specification for individual airline, State and region. These base figures have been measured using the ICAO Aviation Satellite Account Methodological framework and/or taken from the Aviation Benefits Report 2019.

Through enabling users to input a mix of assumptions and intuitively compare and evaluate the estimation results, the application can help States to assess the level of intervention for the achievement of desirable outcome.