

THE GLOBAL EXPERIENCE GAINED IN THE AREA OF AVIATION SECURITY FINANCING

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Abstract. The paper discusses the basic principles of the International Civil Aviation Organization (ICAO) pertaining to the regulations of airport charges imposed for cost recovery to provide a standardized level of aviation security. The national and global experience gained in the area of aviation security financing is analyzed.

Keywords: aviation security, aviation security charges, threat levels, cost.

1. Introduction

The purpose of aviation security is to safeguard international civil aviation against acts of unlawful interference. International civil aviation security can be effectively provided on the basis of rational use of financial, human and technical resources. The financial support from state authorities and aviation security charges imposed on airlines are important contributions to the development and improvement of aviation security in order to ensure the compliance with standards and requirements. Charge rates for aviation security ought to be reasonable and regulated in accordance with the norms of international legislation and the recommendations of state authorities.

2. Problem statement

Safe and efficient functioning of international civil aviation is impossible without proper safeguarding of international civil aviation against acts of unlawful interference and proper funding of the aviation security sector, taking into consideration that aviation security measures depend on threat levels (Annex... 2011).

The world states which are members of ICAO ought to acknowledge the Chicago Convention on International Civil Aviation (1944), as well as implement the standards and recommended practices contained in all Annexes to the mentioned Convention (ICAO... 2006).

ICAO has established seven general principles pertaining to cost recovery for providing a standardized level of aviation security:

- Consultations should take place before any security costs are assumed by airports, air carriers or other entities.
- The authorities concerned may recover the costs of security measures at airports from the users in a fair and equitable manner, subject to consultation.
- Any charges or transfers of security costs should be directly related to the costs of providing the security services concerned and should be designed to recover no more than the relevant costs involved.
- No discrimination should be exercised between the various categories of users when charging for

the level of security provided. Additional costs incurred for extra levels of security provided to certain users regularly on request may also be charged to these users.

- When airport security costs are recovered through charges, the method used for this process should be discretionary, but such charges should be based either on the number of passengers or on aircraft weight, or on a combination of both factors. Security costs charged to airport tenants may be recovered through rentals or other charges.
- Charges may be levied either as additions to other existing charges or in the form of separate charges but should be subject to separate identification of costs and appropriate explanation (ICAO... 2012).
- Civil aviation does not have to compensate costs related to more general security functions, such as: ensuring police security of public order, gathering intelligence information and providing national security.

ICAO emphasizes that the responsibility for security relies on the state and, therefore, the standardized level of aviation security should be provided by the state's own financial and human resources. The States should determine and establish organizations that are capable of provision of aviation security measures.

Also, ICAO recommends involving specific institutions in the provision of aviation security measures.

These institutions are as follows: airports, carriers and law enforcement authorities (territorial authorities of the Ministry of Internal Affairs). Thereby, the States determine the amount of costs for aviation security services. All countries solve this issue in a different way. The vast majority of the countries have established a technique for calculating aviation security charges.

But some countries (Israel, the U.S.A., Great Britain, France, Canada, Japan and others), in addition to the collection of relevant charges, compensate part of the financial costs for the provision of aviation security measures through concessional and target loans for the aviation enterprises which are involved in the activities of international civil aviation.

As a rule, world countries set the aviation security charge rate according to the following rules: for passenger aircraft – per one departing passenger, for cargo aircraft – per one ton of takeoff weight of a departing aircraft.

3. Research results

Aviation security charges can be set separately, or can be included into the total fee for service. However, it should be noted that in the majority of countries the state is involved in the financing of aviation security through the establishment of the Authority for Transportation Security, which serves as a legal support and inspection entity (Arljukova 2008). Table illustrates funding sources and streams employed by several countries.

Table. Funding sources and streams

Country	Funding sources	Funding streams	Determination of aviation security charges
Ukraine	State	Legal support of the sector and monitoring of the implementation of legislation.	Per 1 ton of maximum takeoff weight of aircraft or per every departing passenger
	Consumer	Each aviation enterprise establishes aviation security charges in agreement with the Civil Aviation Authority.	
Russian Federation	State	Legal support of the sector and monitoring of the implementation of legislation.	Per 1 ton of maximum takeoff weight of aircraft or per every departing passenger
	Consumer	Each aviation enterprise establishes aviation security charges in agreement with the Civil Aviation Authority.	
Members of the European Union	State	Legal support of the sector and monitoring of the implementation of legislation and concessional lending.	Per 1 ton of maximum takeoff weight of aircraft or per every departing passenger
	Consumer	Each aviation enterprise establishes aviation security charges in agreement with the Civil Aviation Authority.	
USA	State	Legal support of the sector and monitoring of the implementation of legislation and concessional lending.	Per 1 ton of maximum takeoff weight of aircraft or per every departing passenger
	Consumer	State Authority for Transportation Security defines a specific level of aviation security charges for all aviation enterprises.	

However, as it was mentioned above, countries should follow ICAO international standards and aviation security charges in aviation enterprises should fully recover the costs for providing a system of measures that are carried out by certain airport divisions to protect passengers, crew members, airport and airlines' employees from threats to their life and health, as well as to protect aircraft, airport facilities, equipment and cargo from damage or loss. However, states must uphold the basic principle of security in international civil aviation. This principle is based on the claim that security measures should comply with the threat level (Miziuk 2011). Efficient performance of the entire aviation security system depends on the management of aviation security measures. Such target management is based on the determination of the key challenges for aviation security, in particular, the elimination of threats. The main efforts of enterprises should be directed towards the implementation of aviation security measures.

To establish an effective system of funding of aviation security measures, it is necessary to take into account the dependence of aviation security measures (Y_j) on threat levels (X_i). This dependence is determined by the cost components: the human, material, technical and informational resources required to provide appropriate aviation security, according to the following formula:

$$Y = \sum_{i=1}^n Y_j^i = \sum_{i=1}^n \sum_{j=1}^m \delta_j^i, \quad (1)$$

where i indicates the threat level; n – the number of threat levels; j – aviation security measures; m – the number of aviation security measures; δ_j^i – Kroneker symbol.

This approach forms the basis for determining the total cost of aviation security for aviation enterprises at a certain threat level. The total amount of aviation security costs with the threat level taken into consideration can be determined according to the following expression:

$$TC^i = \sum_{j=1}^m \delta_j^i C_{ab}^i(Y_j), \quad (2)$$

where TC^i indicates the total cost of provision for i -level of threat measures; $C_{ab}^i(Y_j)$ – the cost of provision of j -level aviation security measures for i -level of threat.

As a result, it is possible to determine the amount of aviation security charges using the correction coefficients of expenditures according to the levels of possible threats related to acts of unlawful interference. This allows aviation enterprises to formulate provisions for the prevention or elimination of unlawful interference due to the incorporation of aviation security charges into the total cost of aviation services.

4. Conclusions

After analysis of the funding sources of the aviation security sector, the following conclusions can be made:

- developed countries provide significant financial support to the sector, actively conduct concessional lending (especially for development, implementation, purchase of new means of security control), intervene in the policy of charges, establish fixed level of charges, etc.;
- in countries with transitional economy and developing countries the aviation security sector is funded through certain aviation security charges for each aviation enterprise;
- the aviation security funding system that takes into account the dependence of the costs on the threat levels has not been implemented in any country.

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