

CONFERENCE ON THE ECONOMICS OF AIRPORTS AND AIR NAVIGATION SERVICES

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Agenda Item 5.2: Elements for consideration with regard to ICAO policy

A FRAMEWORK FOR NOISE RELATED AIRPORT CHARGES

(Presented by the Netherlands)

INFORMATION PAPER

Introduction

1. With air traffic growing world-wide on an average of 5% a year, more and more airports will not only face physical capacity problems (congestion) but environmental problems as well, in particular noise. Although the specific noise situation, as a local problem, differs from airport to airport, in many countries governments already have taken measures to reduce the noise impact or have imposed limits on the amount of noise which aviation is allowed to produce in the vicinity of the airport.
2. Generally spoken, independent of the specific objective, reduction of noise impact can be operationalised by regulatory measures or economic pricing. Examples of regulatory measures taken at airports are imposing a limit to, for instance, the number of passengers or freight, aircraft movements, aircraft movements at night (night curfew).
3. This kind of regulatory instruments is easy to impose and this is the reason why these are often used at airports where noise problems occur. However they do not represent an efficient and effective solution: all users will be hit equally and will not pay the right price level. There is no relation with noise emitted by each aircraft (category) accommodated at the airport: essential (financial) incentives for an improvement of the noise impact towards an optimal level, for instance by the use of quieter aircraft, are missing.
4. Opposed to regulatory measures, economic pricing, by means of noise related charges, may offer an efficient and effective solution. In an optimal situation this requires the full internalisation of external noise costs ("the user pays"-principle). This concept is recognized by more and more States and by international bodies like the European Commission. From this point of view, reference can be made to the similarities with the work of ICAO/CAEP on market based options for achieving objectives for global emissions by aircraft.

5. The NL note that in the ICAO Statements by the Council (Doc 9082/5) and the Airports Economics Manual (Doc 9562) noise related charges have already been addressed, though in a somewhat narrow interpretation. The internalisation of external costs is in fact confined to direct expenditure, like noise abatement programmes.

Policy objectives on the use of noise related charges

6. The design and use of noise related charges is directly related to the specific objective involved. In this Paper two objectives for the use of noise related airport charges have been identified:

6.1. alleviation (or prevention) of noise impact

This objective can be achieved, for instance by means of a revenue- neutral modulation of charges with surcharges and rebates, according to an aircraft classification. This option can be used by the airport operator as a “tool of management” to promote quieter aircraft and discourage noisier aircraft categories. To a limited extent this option will offer incentives to accommodate a larger number of aircraft movements in case of restricted noise capacity.

However, in principle this kind of modulation does not reflect (marginal) noise costs (for instance, less noisy aircraft still produce noise but they get a rebate on basic landing charges). For this reason it should be stressed that with revenue- neutral modulation, external noise costs still have not been internalised.

6.2. internalisation of marginal external (noise) costs

External noise costs arise when, in this case, aircraft movements directly affect the welfare of other persons, living in the surrounding of the airport, without being reflected in market prices. According to economic theory it is generally accepted that under perfect competition, efficient allocation of resources requires prices based on total social costs (internal and external marginal costs). In case of aircraft noise this means that the total package of airport charges should not only include infrastructure costs, but marginal noise costs as well.

For reasons of effectiveness this can be achieved, in general, by modulation of noise charges/levies as close as possible to marginal noise costs of each type of aircraft, according to a noise classification of aircraft types.

In this way (financial) incentives will be introduced for operating quieter aircraft types and flying at more favourable hours.

Internalisation of external noise costs will lead to an increase in the total package of airport charges. At first, assuming a certain price elasticity, this will result in a lower level of aircraft movements. Consequently, a reduction of noise impact and external noise costs will be achieved.

It is to be expected, however, that airlines gradually will adjust their fleet mix, so ultimately the same (or even a larger) number of movements but with less noisy aircraft may be possible, resulting in a more efficient use of the airport.

The assessment of external noise costs is a responsibility of the government. It should be recognized that the assessment can result in a range of estimates, according to the approach followed ¹). The NL note that direct costs/expenditure on noise abatement programmes or other direct expenditure, as presented in the ICAO Statements by the Council (Doc 9082/5, appendix 1), will not necessarily fully reflect the level of external noise costs.

In such a case, users are not paying the full economic costs to the community, so the right price signals for infrastructure investment decisions at the airport are missing. Consequently the airport will be used less efficiently.

Conclusion

7. In many countries noise related charges are already put into practice in a variety of ways. Referring to the ICAO Manual of Airport and Air Navigation and Charges (Doc 9562) followed by the Statements by the Council (9082/5, paragraph 21), the Conference is invited to note the conclusions of this Paper that:

- on the one hand the ICAO Statements are rather restricted from the perspective of external costs and stresses that noise related charges, by internalising the full external (noise) costs, can offer an efficient and effective solution to airports with noise (capacity) problems;
- on the other hand the Statements of ICAO implicitly are covering different circumstances and objectives under which noise related charges may be implemented. The disentanglement of these different applications by means of a framework for noise related charges, may enhance transparency.

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¹ see for instance:

- ICAO, Emission charges and taxes in aviation, Report of the Focal Point on Charges, 1998;
- OECD, Efficient Transport for Europe, Policies for Internalisation of External Costs, 1998