

# RISKS IN CIVIL AIR TRANSPORT AND THE POSSIBILITY OF INSURANCE

Viera Kyseľová

Although air transport is the latest mode of transport, it represents one of the most important sectors of the economy. The growth potential of the air transport is not exhausted. Competition is increasing, there is a boom in airlines, conditions of service providing are changing within the various airlines, leading to the expansion of risks and their subsequent elimination. In this contribution, I focused on the possibility of eliminating the risks associated with civil air transport through insurance.

Keywords: insurance industry, insurance, risk, insurance risk, reinsurance, aviation.

## 1 INTRODUCTION

Aviation in its nature represents the most dynamic sector of national economy. The huge boom in aviation is dated from the early 20th century and its volume is constantly increasing. As an important economic entity it is a key factor in the development of the modern society, it is a means of economic development and one of the largest spheres of the economy. By its nature, it is heavily involved in ensuring sustainable development, mobility, economic growth and integration of new Member States into European structures.

Air transport is the safest method of transport. The incidence of aircraft accidents in comparison with other methods of transportation is much smaller, but the accidents in air transport for flight crew and passengers have often fatal consequences. Aircraft accidents cause injuries, fatalities, property damage and damage caused to third parties.

## 2 RISKS ELIMINATION IN CIVIL AVIATION AND THE POSSIBILITIES OF INSURANCE

### 2.1 The nature and importance of insurance protection

The world, in which we live, is characterized by a number of uncertainties and random events.

Every human activity is a source of prosperity, development and progress, but may well result in hazards that can endanger people.

It holds the possibility of adverse and unexpected combinations of events leading to material damage or damage to health and to the loss of life as well.

Negative, adverse and unexpected phenomena that occur in all sectors of human activity are a part of community life.

Accompanying feature of each purposive activity is the potential occurrence of a random event that represents the existence of risk as a negative deviation from expected result which needs to be insured.

*Insurance* is a specific non-manufacturing sector, or services sector of the economy, that provides the elimination of risks affecting all human activities.

*Insurance* is specific national economy sector that specializes in ensuring the functioning of the economic system through the repayable loss prevention and payment of claims, which arose from unpredictable, as well as expected events.

The term "*insurance*" is derived from Old Italian word "*assicuranza*". Insurance and assurance are identical with the word *surety* or *security* in Slovak. [7]

*Insurance* can be understood as a protection against risks, where the insured transfers their risks, whose potential consequences of the loss ratio from their individual point of view are unacceptable, to the insurer who with a sufficiently large set of risks of a similar nature is not only capable to cope all the taken risks by

using collected premium, but they might become also the subject of a profitable commercial activity.

*Insurance* is a specific kind of financial service, where the insurer for reimbursement provides insurance coverage for the taken risks so that if an insured event occurs, he will provide to the insured the insurance benefit. [7]

*Insurance*, therefore, can be defined as a financial tool to eliminate the negative consequences of random events. [4]

These random events we identify as insurance risks. *Insurance risks* are caused by natural forces, regardless of human activity or directly through human activity. Their impact may cause *damage* to health or property. Quantified damage is called *loss*. Realization of risks leads to the insured event, in which the conditions stipulated in the *insurance contract* will lead to a financial compensation of the insured, ie compensation for the damage through *insurance claims*.

Insurance relationship between the insurer and the insured are characterized by:

- *solidarity* - insurance reserves are created from common paid premium,
- *conditional return* - the insurance compensation is paid only in case of insured event,
- *non-equivalence* - the amount of insurance claims is not dependent on the amount of premiums paid.

Other insurance company activities include preventive activity and reinsurance.

*Preventive activity* is focusing on the prevention of damage, a measures aimed at reducing risk and loss.

*Reinsurance* is defined by the Insurance Act as “taking insurance risks by a reinsurance company [...], risk valuation and management, management of reinsurance contracts, the creation of technical reserves [...], providing benefits from reinsurance contracts and the providing

consultancy services in the insurance industry.” [10]

*Reinsurance activity, respectively reinsurance* can be characterized as insuring the insurance. It is a specific form of insurance, in which the insurance company “transfers to the reinsurer part of the risks that go beyond his financial capacity, and would upset the balance of its portfolio.” [8]

## 2.2 A general definition of risk

Within the insurance industry, risk represents the possibility of an event that is the subject of insurance - insured event. The risk is not an insured event by itself, it indicates only a potential possibility of its occurrence.

T. Cipra understands *risk* as the uncertainty associated with the presence of a potential situation. [2]

In terms of insurance, *risk* is understood as a positive as well as an adverse event in the life of a man. [1],

According to the Insurance Act 8 / 2008 Code, which entered into force on 1 April 2008 *insurance risk* is defined as a danger which may lead to an insured event. Insurance company in this case is obliged to pay the clients insurance claims under the terms of the insurance contract.

In insurance, the term “risk” also refers to:

- object threatened by random danger (eg, building, household, machinery),
- event, causing damage and thus represents a source of risk (eg accident, theft, natural hazards),
- likelihood of an incident, whose effects are negative for an economic entity. [5]

The size of the risk is determined by two factors:

- *frequency* – frequency of risk occurrence

- *seriousness* - quantifiable extent of the damage caused by the implementation of risk

Event subject to insurance must meet the following criteria:

- *randomness* - it must be random in nature, it is unclear whether it will ever occur and when,
- *identifiably* – the cause of risk, should be detectable
- *calculability* – loss itself must be quantifiable,
- *economic acceptability* - insurance must be economically feasible for the policyholder and the insurer as well.

In the case of insurable risk, it is necessary to take into account the problem of asymmetric information and systemic risk.

*Asymmetric information* reflects the differences in awareness of the likelihood of potential losses between insurers and clients.

*Systemic risks* are dependent risks, which cause at the same time loss to a large amount of economic entities. Since in such cases, the amount of insurance claims paid considerably exceeds the amount of premiums received, insurance companies against such risks provide reinsurance, or geographic distribution of insured risks.

### 2.3 Risks in air transport and the possibilities of insurance

According to the European Parliament and Council Regulation (EC) nr 785/2004 and insurance requirements for air carriers and aircraft operators it is necessary under the common transport policy and consumer protection promotion to ensure the lowest possible adequate level of insurance to cover liability of air carrier in respect of passengers, luggage, cargo and third parties.

Aircraft insurance provided by insurance companies is governed by the insurance contract, general insurance conditions, contractual arrangements and generally binding regulations governing insurance.

Risks insurance associated with aviation comes under non-life insurance.

#### 2.3.1 Risks in air transport

In terms of insurance to the risks in aviation belong:

- the risk of damage, destruction or theft of the aircraft,
- the risk of death due to accident or permanent consequences of injury,
- the risk of damage to property caused by aircraft to third parties,
- the risk of death or injury of third parties caused by aircraft,
- the risk of damage to luggage or cargo during transportation,
- the risk of terrorism.

To the risk insurance of the aviation industry are linked the following life insurance classes:

- accident insurance

*Injury* can be defined as “sudden and unexpected action of external forces or insured’s own physical strength or unexpected and continuous action of high or low outdoor temperatures, vapor, gases, radiation and poisons, which are being caused during the period of insurance and lead to physical injury or death to the insured.” [6]

The content of accident insurance is:

- insurance against death resulting from an accident - in case of death resulting from an accident within a certain period, the insurance company pays the entire sum specified in the contract
- insurance in case of permanent consequences of injury, respectively insurance against disability resulting from injury,
- insurance of the time required to treat the consequences of an accident,

- insurance of interventions undertaken to treat accident consequences,
- accident insurance of the seats.
- insurance of damage caused to aircraft, which is a form of transport insurance.

*Transport insurance* is a damage insurance, which may be caused on different types of vehicles or goods, during the transport itself as well as during the preparation of goods for transport. In addition to these losses transport insurance includes salvage costs, screening costs and a contribution to a common accident. The importance of transport insurance is that the carrier is liable only for damages caused by his fault. This type of insurance with coverage of eg catastrophe risks or the risks caused by human factors (vandalism, theft etc.) provides wider insurance cover.

Transport insurance we divide into two types:

- hull insurance - vehicle insurance,
- cargo insurance - insurance of goods carried.
- insurance of goods during transport, including baggage and other property, regardless of the vehicle used for transport.
- liability insurance for damage caused by aircraft, including carrier's liability.

Liability insurance for personal injury or property loss represents, in the event of an insurance claim, the right of the aggrieved person for compensation under the responsibility of the insured.

The subjects of indemnity are usually the following: lost of income during or after the period of work incapacity, smart money, loss of social application, medical expenses, property damage, funeral expenses, lump sum compensation to survivors, maintenance costs of the survivors and so on. At the time of conclusion of the insurance contract the injured party is usually unknown. Insurance usually does not cover damage resulting from intentional or criminal activity. In the case of

damage caused by the influence of alcohol or drugs, the insurer may apply reasonable compensation to the insured of what he paid for him. [2]

The liability insurance also includes *liability insurance for damage caused by occupation*. This is a compulsory liability insurance required for certain professions, which is one of the conditions of the permit to operate. In addition to legal, medical or economic professions, such insurance is also required for aircraft operators.

It is appropriate with the insurance package to include a passenger's *travel insurance*, which is to ensure the insured before, during and after trips abroad. Travel insurance usually offers different categories of insurance products, eg medical expenses, assistance services, luggage insurance, liability insurance, accident insurance, cancellation fees insurance (trip, airline tickets, accommodation...). The maximum length of insurance period is usually 1 year. The amount of the premium depends, except the insurance period, on the required extent of coverage. Other factors affecting the premium rate in particular, are country of residence, type of trip (tourist or business), age of the insured and so on.

### 2.3.2 Contractual arrangements of aircraft insurance

*Insured event* - the sudden emergence of an unexpected and harmful event, which is the result of an insurance risk and is linked with the emergence of the insurer's obligation to provide insurance benefits.

*As insurance claims in aircraft insurance are considered:*

- loss caused by damage or destruction of an aircraft by any kind of insurance risk that is not excluded or restricted by the general insurance conditions and contractual arrangements or by the insurance contract. In the insurance contract it is also possible to arrange an insurance for a temporary suspension of operation of an aircraft, where

the insurance covers damage or destruction of an aircraft during taxing or tests, as long as it is performed on the surface,

- material damage caused by theft, burglary,
- damage caused by the disappearance of the aircraft,
- in case of temporary disassembly of the aircraft an insurance claim can be considered for damages caused by fire, theft, burglary, flood or inundation, and/or depending on the specific conditions stipulated in the policy.

Aircraft insurance covers damage caused by the use of aircraft for the purpose, which is stated in the contract.

In addition, insurance also covers damage caused by the necessary flight tests that are required to issue airworthiness of an aircraft and pilot training.

Insurance may also cover damage resulting from aircraft taxiing, engine and other aircraft parts testing, flight test and aircraft movements associated with maintenance and repair of aircraft, provided by persons belonging to a professional aviation staff or authorized for this activity by relevant workshop or service.

Insurance does not cover damage mentioned in the exclusions from coverage, which are negotiated by the insurer, which also includes damage caused by willful misconduct or gross negligence of the insured or designated persons, consequential damages (eg loss of profit, fixed costs) and punitive sanctions, damage outside the territorial validity of the insurance, which failure was not due to vis major, damage caused by aircraft crew under the influence of alcohol or narcotic drugs.

*The capital sum* – is determined by the policyholder's proposal to match the insurable value of an insured aircraft at the time the insurance contract is concluded.

The capital sum by concluding an insurance contract can be:

- *new price* - the price at which an aircraft can be equally or comparable, ie of the same type and purpose, again acquired as a new aircraft,
- *different price* - as agreed in the contract

The insurer when entering into an insurance contract is entitled to examine the value of an insured aircraft.

The claim for insurance benefit arises:

- In case of damage to an aircraft - at a reasonable cost to repair that is needed to place the damaged aircraft to operational status. In the event of damage to an aircraft, where the insurer is obliged to provide insurance benefits, the insurer shall pay the reasonable salvage costs necessary to transport the aircraft to a place of repair.
- In case of destruction, theft, burglary or disappearance of the aircraft (total loss) - the amount of capital sum of the aircraft less the value of recoverable scrap. In the case of destruction of the aircraft, the insurer shall pay the reasonable cost of removing residues of the destroyed aircraft.

The insurer is entitled to a reduction in insurance benefit in case, when the insured during aircraft repair or its individual components failed to comply with the instructions laid down in the insurer's insurance policy.

### 3 REINSURANCE

Damage associated with the implementation of risk in air transport (eg aircraft accident or terrorist attack) is generally catastrophic in nature. For a single insurer it is virtually impossible to assume all insurance risks covering risks associated with air transport, because of lack of insurance capacity. The insurance of the risks in the air transport this way enables just reinsurance.

Expertly said, the insurance company (insurer, transferor) transfers (cedes) to the reinsurer (cessionary) a part of risk (cession), which exceeds its financial possibilities and would upset the balance of its portfolio. Part of the

accepted risk may the reinsurer again reinsure to another reinsurer (retrocession).

For the assumption of the risk, the reinsurer is paid a part of a premium, the so called reinsurance premium, by the insurer. Given the fact that between the insured and the reinsurer there is no legal relation, in case of insurance claims the insurer is fully responsible to the insured. [3]

### 3.1 Reinsurance of the aviation risks

Reinsurance plays an important role in aviation risks insurance, determined by “*Excess-of-loss*” that is the excess of loss reinsurance. The insurer shall determine the priority, ie that part of the claims, which can be borne alone. For damage in excess of that limit, insurer regulates the excess of loss reinsurance. In the case of an insured event, therefore the reinsurer pays damages in excess of the insurer`s priority, but only within certain pre-agreed amount. The maximum of the damage, respectively insurance claims paid by the reinsurer is called the layer. The limit of the reinsurer may be achieved by the sum of several events, each of which is in a layer of reinsurance coverage, but does not exceeds this layer or a single catastrophic event and the resulting claims. In the case of exceeding the limit it comes usually to one or two renewal of the reinsurance contract capacity.

## 4 CONCLUSION

Due to globalization, volume of air transport continues to grow. Despite the qualitative and quantitative measures in the field of aviation safety, the frequency and seriousness of adverse random events is increasing, whose impact is necessary to eliminate through insurance. Within the European Union it is expected that security risks over the next 15 years for land transport are going to increase fourfold and in the air transport twice. The main risks are associated with influencing airport infrastructure and its operation.

To ensure aviation security significantly contributes the harmonization of aviation security measures at a European level, whose applications in practice suggest that they are relevant, objective, non-discriminating and proportionate to the risk.

A general increase in security threats have led to the adoption of a large number of follow-up security measures at a national and international level. Aviation security includes all rules and procedures that ensure commercial, cargo and regular air carriers to fly safely. These are rules for construction and use of aircrafts, security infrastructures, data management and analysis, flight operations and costs.

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#### AUTHOR'S ADDRESS

Viera Kyseľová, Ing., Ph.D., The Technical University of Košice, Faculty of Economics, Department of Banking and Investment, [viera.kyselova@tuke.sk](mailto:viera.kyselova@tuke.sk)