AVIATION TERRORISM AND ITS IMPACT ON THE AVIATION INDUSTRY

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Abstract: This article deals with the issues relating to the impact of terrorism on aviation industry operations. It traces the origin of aviation terrorism and the escalation of the phenomenon. An analysis of two terrorist attacks that took place in Turkey in 2016 is provided to show their consequences to the industry and the country. In particular, the article highlights the relation between terrorist attacks and aviation industry management practices.

Keywords: terrorism, aerial attacks, logistics, air transport, aviation logistics.

1. Introduction

The development of civil aviation has gone hand in hand with the expansion of extremist groups in their pursuit of ever more effective attacks. Indeed, we have grown accustomed to the spectre of terrorist attacks. Therefore, we should not expect any sharp decreases in air ticket prices, so as to bring back perceived lost clientele as other drivers are more important, e.g. the relatively low cost of crude oil. Still, air transport can be notably affected by how passengers perceive airport services, which can take significantly longer to complete due to the threat of terrorist attacks (Aleksandrowicz, and Liedel, 2010; Aleksandrowicz, 2009).

This article is aimed at analysing the impact of terrorist attacks on the aviation industry.

In spite of the notable escalation in the second half of the 20th century, the term "terrorism" has yet to receive a clear legal definition that could be accepted by the international bar community (Wiak, 2009; Laskowski, 2013; Krzemień, and Wolniak, 2017; Wolniak, 2018).

This is why international law does not provide a definition of "aviation terrorism". The system of legal norms that is meant to be used for combating terrorism is based on the principle of cataloguing certain criminal offences that have the same denominator, or sign, that is characteristic of acts of aviation terrorism. This approach has led to development of the

so-called sectoral conventions (the Tokyo, Hague and Montreal Conventions, and the additional protocol to the Montreal Convention).

In the course of works on successive conventions, starting with the Tokyo Convention, the catalogue was expanded to include new forms of terrorist offences and attacks. At present, the system of international sectoral accords designed to combat all forms of aviation terrorism is based on the:

- Convention on Offences and Certain Other Acts Committed on Board Aircraft, signed in Tokyo on 14 September 1963 (Journal of Laws of 1971, No. 15, Item 147; the Convention entered into force on 4 December 1969);
- Convention for the Suppression of Unlawful Seizure of Aircraft, signed in The Hague on 16 December 1970 (Journal of Laws of 1972, No. 25, Item 181; the Convention entered into force on 14 October 1971);
- Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation, signed in Montreal on 23 September 1971 (Journal of Laws of 1976, No. 8, Item 37; the Convention entered into force on 26 January 1973);
- Protocol for the suppression of unlawful acts of violence at airports serving international civil aviation, supplementary to the Convention for the suppression of unlawful acts against the safety of civil aviation, signed in Montreal on 23 September 1971, resolved in Montreal on 24 February 1988 (Journal of Laws of 2006, No. 48, Item 348; the Protocol entered into force on 6 August 1989, http://isap.sejm.gov.pl).

2. The beginning and escalation of aviation terrorism events

The history of aviation terrorism dates back to the 1930s. The hijacking of an aircraft by Peruvian revolutionaries in 1930 is considered the first incident of this kind to have been strictly politically motivated. Therein, several Peruvian revolutionaries seized an aircraft with the intention to illegally cross the border of their country (Rajchel, 2010). According to the International Civil Aviation Organisation (ICAO), the seizure of an aircraft from Macao by terrorists in 1948 is the first post-war case of hijacking. Other sources, however, refer to the year 1947 when a Romanian aircraft was hijacked.

Aircraft hijacks were rare between 1940 and 1950. However, they did happen sporadically, mainly as part of attempts to escape from communist countries in Central and Eastern Europe. For example, a series of hijacks took place in the early second half of the 20th century in Cuba where dissidents took-over aeroplanes to flee from Fidel's regime to the USA.

The situation changed diametrically in the following years, when Pro-Cuban rebels, leftist Americans and common criminals evading the law began hijacking aeroplanes from the USA to Cuba. The first of these events took place on 1 November 1958 when four pro-Castro Cuban citizens and supporters seized a flight bound from Miami for Havana. The flight ended tragically. The aircraft crashed in northern Cuba, apparently while searching for an airfield controlled by Cuban rebels (Marcinko, 2012).

In 1969, the problem of aircraft hijacks between the United States and Cuba was so acute that a bilateral agreement on the suppression of hijacking was signed. This played an important role in resolving the problem (Benjamin, and Simon, 2003; Bolechów, 2002).

However, international aviation terrorism is considered to have truly started with the hijack by terrorists from the Popular Front for the Liberation of Palestine (PFLP) of an El Al Israeli airliner bound from Rome for Tel Aviv on 22 July 1968. The aircraft was flown to Algeria, which was considered "a safe haven" for Arab extremists at that time. On landing, the hijackers released 26 hostages who were not of Israeli descent and demanded that 1,200 Arab prisoners held in Israeli prisons be freed in exchange for the remaining. After 16 Arab prisoners had been freed, the terrorists decided to release the rests of their hostages (Żylicz, 2015).

It should be noted that the 1968 incident was the only successful terrorist attack on El Al's fleet ever, which is a truly impressive achievement taking into account the total number of attempted attacks on the Israeli airline. The incident had also one other aspect. Namely, it showed various terrorist organisations that aircraft hijacking was an effective method to achieve political goals by means of exerting pressure on state authorities (Wolniak, and Skotnicka-Zasadzień, 2017; Wolny, and Wolniak, 2017).

Airliner hijacking by Palestinian terrorist groups saw a peak on 6 September 1970, when four aircraft bound for New York were hijacked with the same hour. The terrorists were successful with three airliners. A Swiss DC-8 and a US Boeing 707 were directed to the Dawson's Field airstrip near the town of Zarka in Jordan, and a Pan Am' Boeing 747 was forced to land at the Cairo airport in Egypt due to its size. The intended hijacking of an EL Al Israeli flight was, however, foiled after cooperation between the crew (including on-board guards) and passengers resulted in the fatal shooting of Patrick Arguello and the capture of his accomplice, Leila Khaled. The airliner landed at Heathrow Airport in London, where Khaled was turned over to the police. In September, most of the 366 hostages held at Dawson's Field were freed after being transferred to Amman. Only 56 hostages, mostly of Jewish descent, remained in captivity. On 30 September 1970, after many days of negotiations, the terrorists freed the rest of the hostages thanks to a deal under which Khaled and several other PFLP prisoners were to be released (Avihai, 2009; Aleksandrowicz, 2009, Ciborowska, 2008; Elias, 2011).

Another precedential terrorist attack took place on 5 September 1972 during the Munich Olympic Games when a group of Palestinian terrorists of the Black September Organisation took hostage several Israeli athletes. Sadly, all hostages were killed during an unsuccessful recapture attempt (Baber, 1997; Barcik, and Czech, 2008).

Soon, a more brutal from of aviation terrorism evolved – aircraft bombings. In this campaign, bombs of various sizes were planted and detonated not only on board airliners, but also within airport premises. The explosives commonly used in these bombs included SEMTEX, C-4 and RDX – all easily available on the black market. In the 1970s, SEMTEX was exported on a massive scale from Czechoslovakia to such countries as Libya and Syria (Krawczyk, 2008; Chudziński, 2017). The first official bomb attack on an aircraft is the bombing of a Swiss Air airliner bound from Tel Aviv for Zurich on 21 February 1970. This was organized by the PFLP.

In the 1970s, bombings organised by Arab terrorist groups were targeted mainly against the Israeli carrier El Al. However, starting in 1974, due to the US support for Israel's anti-Palestinian policy, the terrorists also started targeting US airliners (Ghobrial, and Irvin, 2004; Glen, 2007). The 1980s saw a worrying increase in aircraft bombings, successful and unsuccessful, resulting in a huge number of fatalities. To compare, 42 bomb attacks were carried out in the 1970s, killing 650 people, while in the 80's 24 attacks claimed the lives of nearly 1,000 people (Harrison, 2009; Hoffman, 2006).

The sharp increase in fatalities caused by bomb attacks can be illustrated by the event of 23 June 1985 in which separatists from the Babbar Khalsa organisation planted a SEMTEX explosive device inside a Sanyo portable stereo. The airliner involved was operated by the Indian carrier Air India and was bound from Montreal for New Delhi (Flight 182). Although the baggage was x-rayed at the Montreal airport, the bomb was not detected. The device exploded at 08.14 hrs, when the aircraft was over the Atlantic Ocean (Karolczak, 1995; Jałoszyński, 2008). All 329 people on board died.

Another equally dramatic aircraft bombing took place on 21 December 1988. The aircraft involved was operated by Pan Am Airlines and was bound from London for New York (Flight 103). This time, a SEMTEX-filled Toshiba portable stereo was put inside a suitcase marked with a stolen JFK Rush sticker (which indicated lost baggage to be delivered to New York's JFK Airport as quickly as possible). The baggage was loaded into the airliner with no problem and without being checked. The device was designed to explode when the aircraft climbed 31,000 feet above ground. At the moment of the explosion, Flight 103 was flying over the town of Lockerbie, Scotland. The attack claimed the lives of 259 passengers, the crew and 11 residents of the town, who were killed when the aircraft remains hit the ground.

It is known that terrorists target not only aircraft, but other aviation infrastructure as well. The first attack on an airport ever recorded took place on 10 February 1970, in Munich, where three PFLP terrorists fired assault rifles at El Al passengers embarking upon their aeroplane. One person was killed and 11 wounded in the attack (Borkowski, 2006; Burdzik, and Szymończyk 2012).

Another airport attack carried out by the same organisation took place in Rome on 17 December 1973 and claimed the lives of 31 people. First, the attackers fired shots at passengers in the terminal hallway (2 fatalities) and then lobbed grenades at a Pan American airliner parked on the apron, destroying it completely and killing 29 people (Szubart, 2015; Witkowski, 2000).

Twelve years later, on 27 December 1985, two terrorist attacks were carried out almost at the same time on Leonardo Da Vinci Airport in Rome and Schwechat Airport in Vienna. The victims included, as one can easily presume, passengers of El Al and Pan American Airlines. There were 15 people killed (the sixteenth victim died in hospital on 22 January 1986) and more than 100 seriously wounded in the attacks. Out of a total of 7 terrorists involved in the two attacks, four were killed and three captured. The Abu Nidal Organisation (a PFLP splinter group) claimed responsibility for both attacks.

Another deadly method by which terrorists attacked civilian aircraft involved Man Portable Air Defence Systems (MANPADS). The first MANPADS attack took place near the town of Kariba in Zimbabwe, on 12 February 1979, when an Air Rhodesia airliner was hit by an SA-7 missile shortly after take-off. Responsibility for the attack, which killed 59 people, was claimed by the Zimbabwe People's Revolutionary Army. A similar attack was carried out on 8 November 1983 and targeted a TAAG Angolan Airlines aircraft, killing 130 people. The responsibility for the attack was claimed by the National Union for the Total Independence of Angola (UNITA). The method of attacking aircraft with MANPADS is still regularly used by various terrorist organisations. According to estimates by the Transportation Security Administration, there were 35 terrorist MANPADS attacks on civilian aircraft in 1979-2006. These resulted in the deaths of 650 people. Another source (RAND Corporation) reported 40 MANPADS attacks in 1975-1992, due to which 760 people were killed. As can be seen, the data on the number of MANPADS attacks and the related fatalities are inconclusive, but the scale of the problem does remain high.

3. Impact of terrorist attacks on the aviation industry

The attack in Brussels, Belgium, on 22 March 2016 triggered a landslide of questions about the impact of terrorist attacks on the aviation industry. Yet, what is the potential influence of such events on the financial situation of air operators? Firstly, ordinary people, tourists who use the civilian aviation fleet, as well as carriers have grown accustomed to the spectre of terrorist attacks. Therefore, one should not expect any sharp decreases in air ticket prices to attract in lost clientele, as there are other more important drivers of price, e.g. a relatively low cost of crude oil.

One must realise that incidents directly related to terrorism around the world primarily affect the choice of our holiday destination, not the means of transport to take us there. Air transport can, however, be notably affected by how passengers perceive airport services, which can take significantly longer to complete due to the threat of terrorist attacks. Detailed passenger and baggage checks may soon take up to 2 hours, as already seen at Ben Gurion Airport in Tel Aviv.

Still, before discussing the impact of terrorism on the aviation industry, let us first consider the scope of the problem.

An article of 27 March 2016 about the condition of the aviation industry after the attack on the Brussels airport on 22 March 2016 says that the situation is not so bad thanks to low crude oil prices on the market. However, another article, dated 10 May 2016, says that cheap oil is no longer the engine behind the excellent financial performance of airline companies in Europe. Accordingly, due to terrorist attacks, most leading players have recorded multimillion losses. This means that air ticket prices may soon rise from their today's record low level. Turkish Airlines fared worst, but other carriers did not have reasons to be satisfied. On 3 May 2016, the Turkish carrier announced that its 1Q 2016 losses had been estimated to be US $422 million (PLN 1.6 billion), compared to a PLN 0.5 billion profit after 1Q 2015. The 2016 result was the worst result since 1999. The reasons behind the dramatic decrease in the income of the Turkish carrier included the terrorist attacks that took place in the first quarter of 2016 (Chudziński, 2017):

- two attacks in Istanbul (12 January 2016 and 19 March 2016) in which suicide bombers blew themselves up in the city's high streets. This resulted in the killing of 16 people and the wounding of many others. The Islamic State claimed responsibility for both attacks.
- two attacks in Ankara (17 February 2016 and 13 March 2016) in which vehicle-borne explosive devices were detonated at important office buildings across the capital. In both attacks, 67 people were killed and 186 wounded.

Hostilities in neighbouring Syria and Iraq also contributed to the situation. In addition, the passenger traffic from Russia decreased significantly due to mutual tensions and sanctions imposed in the wake of the shot-down of a Russian jet fighter by Turkey. And the worst was still to come as yet another bomb attack took place at the Istanbul-Atatürk Airport on 28 June 2016. Therein, three terrorists who detonated explosive devices at the check-in gates in the terminal carried out the attack. As a result, 48 people were killed and 200 others were wounded.

All the above events translated into a huge drop in the number of tourists. In 1Q 2016, some 4 million tourists visited the former Ottoman Empire, down by 10.3 per cent compared to 1Q 2015. That was the worst result in the previous 10 years, and the Turks calculated that their losses for the year would amount to as much as US $8 billion (lost income from tourism alone).

Surprisingly, the Turkish carrier was considered a dynamically growing company. It intended to carry as many as 72.4 million passengers in 2016 alone, up by 18 per cent compared to 2015. Turkey's state authorities are also building a new airport in Istanbul for their carrier – it is planned to become the largest airport in the world. The airport was scheduled for opening in 2018 and will ultimately process 200 million passengers per year – at least according to assumptions from the early 2016. Reality has said different. Turkish Airlines soon started planning big cost cuts. Turkey's news bulletins reported that as many as 30 aircraft were to be hangared to wait for better days, and that 1,500 employees of the airline had been sent on unpaid leave. Although the reports were not confirmed, 22 routes, including 17 international ones, were closed in the winter season 2016/2017 and towards the end of October 2016, Temel Kotil resigned as the airline's president due to low numbers of passengers carried. In 1Q 2017, Turkish Airlines posted a net loss of lost US$ 373 million, down by 11.4 per cent compared to the previous year. Unfortunately, the carrier remains in the red and no significant improvement in the situation was seen at the end of 2017.

In the context of the recent surge in terrorist attacks, one can notice that even low-cost airlines are reporting losses. Although losses incurred by European carriers are not as high as that of Turkey (indeed, there were many negative factors appearing at the same time in the country), they do feel the negative impact of terrorist attacks as these do discourage people from travelling. The aforementioned Brussels attacks proved to be the strongest blow to the aviation industry, as they almost nullified the cheap fuel effect that had given the airlines' performance a big boost before. Surprisingly, even Europe's second largest low-cost airline, the UK's EasyJet, posted losses – as much as GBP 24 million in 1Q (compared to a profit of GBP 7 million in the corresponding period the year before).

Financial documents stated that most European carriers incurred losses due to the terrorist attacks. Naturally, the highest losses were suffered by Brussels Airlines, which lost its main operations hub at the Brussels airport and had to cancel a number of flights. Herein, the losses were estimated to be in the region of Euro 100 million. Others posted losses as well. For example, Lufthansa lost Euro 8 million in 1Q 2016 and Air France lost Euro 155 million.

Notably, the problem with terrorism has a negative impact only on European carriers, while their Persian Gulf counterparts are doing just fine (Chudziński, 2017). Emirates airlines announced in 2016 that they had earned net US $2.2 billion in the previous fiscal year (March to March), up by 50 per cent year-to-year. Emirates are saying their success is mainly due to new routes opened and the low prices of crude oil.

It is worth adding that Emirates won its successive World's Best Airline title in 2016, with Turkish Airlines winning the contest in Europe. The situation is slightly different this year – Qatar Airways has become the world's winner (Emirates came fourth), while Lufthansa won in Europe. Conclusions are as follows – people want to travel, move from one location to another as fast as possible, and they are given such opportunity by air travel. Therefore, the future of the aviation industry should not be too big a concern for now. Terrorism has caused a mere blip

in the market, the long-term drivers of financial success are elsewhere. However, it can have profound effects on individual carriers.

4. Conclusions

Terrorist attacks have had an undisputed impact on the entire aviation industry. Terrorism has led to enormous losses incurred directly by air carriers and has affected the tourism sector in a number of countries. For instance, losses incurred by the tourism sector in Turkey alone due to the increase in aviation terrorism are estimated to have reached US $8 trillion in 2017. Further intensification of aviation terrorism can lead to significant economic losses for the entire industry and countries affected by the phenomenon. Aviation terrorism must be curbed to minimise these losses. Still, the long-term success of the airline industry is secure.

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