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The Economics of Meeting the Challenges of Air Transportation Security

by Kenneth Button

INTRODUCTION

In Spanish there is a just word that covers security and safety, seguridad. In many ways from the airline passengers’ point of view this commonality is understandable; they are interested in reaching their destination without harm coming to them. But from an analytical and public policy point of view, there are major differences between safety and security. Safety involves unintended harm to people and goods, whereas security is about intended harm. This has implications for the ways in which remedial policies have to be assessed and a significant difference in the economic analyses that has to be employed.

From the economic perspective, most public policies aimed at improving either safety or security, involve the use of some form of cost-benefit analysis. While the general cost-benefit style approach of seeking to put monetary values on the long- and short-term implications of a public policy has a strong intellectual appeal, and in the context of consistency across decisions offers an element of uniformity, there are specific peculiarities in applying it to air transportation security. Here we look at some of the economic theory that seems applicable for examining the “market” for passenger commercial airline security, and offer some commentaries regarding the extent to which this seems to have been influencing public policy makers. While the discussion is general in the sense that it is not intended to be location specific, there is something of a focus on the situation in the United States; its domestic air travel market is the largest in the world and it has been particularly active in developing security policy since the events of September 2001.

THE NATURE OF THE AIR TRAVEL SECURITY PROBLEM

Safety has been a long-standing focus of commercial aviation, and the safety of the world’s airlines has improved considerably over the decades to the point that serious accidents have become extremely rare. Indeed, dependent on the measurements used, air transport is the safest way to travel. In many aspects, it is also a remarkably secure way to travel despite a popular perception to the contrary. Additionally, the nature of security violations

1 University Professor School of Public Policy George Mason University, MS-3B, 13351 Fairfax Drive Arlington, VA 2220, USA
2 Globally there are far more acts of terrorism each year involving buses, cars, trains, and ships than aircraft.
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has shifted. While there are still thefts of cargo, a topic we largely leave aside, threats to passengers have changed. In particular there has been a steady rise in skyjacking and attacks aimed at destroying aircraft or harming passengers. Although there were bomb attacks, until 2001, for example, terrorists generally gained more from negotiations after a skyjacking involving minimal harm to hostages than in killing them.

Attacks on the aviation sector have over the years been on various parts of the air transport supply chain. The most common has been the skyjacking of aircraft or destruction of aircraft in flight, such as the bringing down of Pan Am Flight 103 over Lockerbie, Scotland, but there have also been attacks on airport terminals, such as that by the Abu Nidal Organization on Rome’s Fiumicino and Vienna International Airport, in 1985, and by the Japanese Red Army at Lod Airport, Israel in 1972, on runways, for example the IRA’s mortar attack on Heathrow in 1994, and by missiles fired at commercial aircraft including two anti-aircraft missiles fired at an Israeli airliner taking off near the Kenyan city of Mombasa in 2002.

These actions have also been for a diversity of reasons. Some have been for pure publicity or the personal gain of the skyjacker, and the terrors imparted has been more or less a side effect of the action. The motives of those concerned have varied; they have involved the seeking of financial ransom but more often they have been by individuals and families seeking to leave a particular country to gain asylum elsewhere. In other cases, the attacks have been for direct terror reasons, to either produce material damage or to threaten to do so to obtain political ends, publicity for a cause, or the release of imprisoned colleagues.

From the 1960s, for example, there were numerous skyjackings for largely political propaganda reasons or by those seeking to divert flights to obtain political asylum in a third party country. A variety of actions were taken as counter measures including more thorough screening of passengers, but these were seldom seen as excessively intrusive by travellers. The use of skyjacked civilian aircraft in the attacks on New York and Virginia, and the thwarted one on Washington D.C. on September 11th 2001 changed the pattern of skyjacking with large commercial aircraft for the first time being successfully hijacked to be used as weapons. It was also significant that it involved suicidal attackers taking over a plane and flying it themselves with the aim to kill those on the ground as well as passengers. It was also largely undertaken for symbolic reasons to show the vulnerability of the United States major institutions; financial, military, and political.

3 Between 1948 and 1957, there were 15 skyjackings but this rose to 48 in the following decade. The trend then accelerated with 38 skyjackings in 1968 and 82 the following year. From 1968 to 1977, there were 414 hijackings; averaging over 40 a year.
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The evolving motivations of attackers and the method they used changed the approach to air transport security. It became clear for example, that traditional deterrence approaches of heavy prison sentences or returning skyjackers to their country of origin, or following Becker’s theory of deterrence, a high detection rate, would be ineffectual against those who see themselves as martyrs. Notions that negotiations could defuse terrorist situations also became redundant. It became appreciated that traditional policing methods needed supplementing. There was a recognition that standard models of criminal behaviour were not applicable, but also that the nature of the problem involved more complicated gaming problems than had been previously thought.

SOME BASIC ECONOMIC ISSUES

For a number of reasons air transport can be a soft target for attack. Technically, although it has been changing, aircraft are physically vulnerable to such things as relatively small bombs and the taking-over of cockpits. Air transport is also highly visible and it is often seen as largely the preserve of those from wealthier countries, and the powerful in less wealthy countries, making it a symbolic target. The number of people who can be harmed in any incident can be large. A large commercial jetliner also makes a very dangerous weapon. For these reasons, and also because it is a mass mode of transport that leads to a concentration of individuals, it has been the subject of numerous attacks.

While there have been major resources devoted to reducing threats of terrorist attacks on commercial aircraft, there has been very little explicit analysis of the economics of the subject, other than fairly straightforward cost analysis of alternative counter terrorism technologies.

At the outset it is useful to clarify some of the terminology used in the security arena. A particular problem is that there are issues of both risk and uncertainty to be considered when examining the policy issue of any forms of security. This was a distinction initially drawn by Frank Knight over 80 years ago, and although somewhat imprecise when it comes to calculations, it offers a helpful dichotomy. There is in our context, initially the matter of separating out pure risk, which has more to do with transportation safety from pure uncertainty that is more to do with terrorism. Each has its own impact on society, and public policy responses need to differ to handle them.

7 The distinction can also be couched in terms of positivistic and contextualization perspectives (Prentice and Hickson op cit.). The former being essentially the actuarial approach to risk and the latter a normative approach to rare and severe
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Risk has a statistical probability associated with it while uncertainty does not. Such probabilities exist because the acts involved are frequent, and fairly clearly defined, allowing the law of large numbers to be invoked. For example, if it is observed that in the past young adult male drivers have minor accidents on average every 200,000 km they drive, one can estimate a risk factor for this group of drivers. This means that under most circumstances it should be possible to insure against this to cover medical and damage costs. Indeed, this is exactly what actuaries do and how insurance premiums are calculated. Insurance companies may differentiate premiums that may be lower for young female drivers if they average only an accident every 300,000 kms driven.

Whether an individual chooses to insure, or to take the risk burden is a quasi-subjective matter based on whether it is felt the premium for the insurance is worth the security offered. It is a question of how information is subjectively treated rather than a case of a lack of information. In other cases, if the implications of the outcome affect third parties there maybe institutional requirements to have insurance; many countries insist automobile drivers have “third party” insurance to provide financial compensation for blameless individuals in a crash.

With uncertainty it is more a matter of pure judgment of those affected who have little if any idea of the probability of an event occurring8. There have either been very few or no events in the past that allow for the use of the large numbers concept, or they have been too heterogeneous in nature to drawn common pictures. In the context of public policy, in many cases, the perpetrators of events such as terrorist attacks may also be reactive to any attempt to prevent their activities in the future and deliberately change the ways attacks are undertaken. In these cases someone uncertain about the future may hold an arbitrary “reserve” to cover losses. In the case of large events, such as a major terrorist attack, government generally acts to provide a degree of compensation after an adverse and unpredictable event9. It acts as a sort of insurer of last resort. Terrorist attacks are infrequent, and diverse in their nature and in their impact making risk assessment virtually impossible and thus this approach is often taken regarding a range security matters, and is why in many cases the government provides at least a minimum level of cover.

8 The normal way of trying to get a handle on uncertainty is to deploy either Monte Carlo simulations or expert opinion analysis, often within a Delphi framework.
9 In the case of the September 11th 2001 attack on the United States, the federal government compensated airlines for their loss of revenue due to the closure of the country’s airspace.
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Drawing the line between risk and uncertainty is not simple, and is largely a matter of judgment itself. In terms of large numbers, major aircraft accidents are rare and increasingly specific in their nature making actuarial calculations challenging. But even with the more common forms of accident involving injuries on planes in turbulence, the Guassian calculations are not always perfect and are continually being refined. Equally, with terrorism, there are some patterns that provide a degree of guidance; indeed that is why countries like Israel profile passengers because there is evidence of certain personal characteristics being associated with terrorist acts. The United States is also engaging in similar profiling by initiating less severe screening for its citizens who are regular air travellers. But the broad distinction is a very useful one for thinking about policy and in the development of security measures.

The problem gets more complicated when the objectives of terrorists are brought into consideration. While the Latin terrere (to frighten) dates back to the terrere cimbricus and the panic in Rome with the approach of the Cimbri tribe in 105BC, the more modern idea of terrorists was espoused by Robespierre in 1794, “Terror is nothing other than justice, prompt, severe, inflexible”, with the Committee of Public Safety agents enforcing the policies of the Terror known as “Terrorists.” While one may well argue over the idea that terrorism involves justice, the actions of terrorists remain “prompt, severe, inflexible.” The key point is the psychological one, terrorists want to control and impose their will and any death or injury is seen as collateral damage. Thus security policies to deal with terrorism are only partly to do with preventing physical harm, they are to a large extent about retaining the confidence of citizens in the current regime. Measuring the confidence of people in any context is difficult, and particularly so when they are confronted with inconvenient security measures they often do not see the immediate value of.

From a microeconomic perspective what this means is that, whereas safety policy assessments can be viewed in terms of risk/risk analysis this is not possible for most matters of security. Essentially, a decision over safety involves setting of the reduced risks of an accident associated with any policy action against the risks of adverse side effects. A simple example, freeways tend to have less automobile accidents for a given traffic level than a normal road, but each tends to be more severe. Since the risk of a terrorist attack is unknown, or only vaguely calculable, the policy challenge is one of undertaking an uncertainty/risk calculation, some of the implications of which are discussed below in the context of economic approaches to airline security.

NOTIONS OF OPTIMAL LEVELS OF SECURITY
Defining the optimal level of security is relatively easy in terms of basic neo-classical
Aviation economics. It is where the marginal cost of an extra unit of security is equated with the marginal benefits that are generated; for the individual these are private marginal cost and revenue considerations, and for the larger society, social marginal curves. As with most things, however, the devil is in the detail. First, we look at the basic concepts inherent in thinking about optimal security policies.

Figure 1 provides a simple abstract diagrammatic representation of the situation with security measured in some undefined way. This allows an assessment of the optimal level of security that should be provided in simple cost-benefit terms. $C$ is an upward slopping marginal cost of security curve based on the reasonable assumption that each increment of security costs more to provide as the most basic and cheapest measures are initially adopted and subsequent ones become more sophisticated and complex. The $B$ curve indicates the marginal benefits of additional security with the flattening of the slope reflecting the decline in additional benefits associated with the more detailed security measures. The optimal level of security in this is $S$.

These curves, however, can, for analytical purposes, usefully be decomposed. Increased security provides benefits in terms of both a reduced threat of material, including physical injuries to people, damage (separated out as $B^*$) and greater psychological “comfort” to those using the transportation services, living or working close to the transportation facility, or having kith or kin that are (the distance between $B$ and $B^*$ curves). The extent to which this psychological comfort exceeds the actual statistical dangers that exist depends to a large extent on the information that is available to potential travelers, their perceptions and their degree of risk adversity.

While there may be no good estimate of the reduced chance of being involved in an attack, there are benefits from simply seeing security measures in place even if there is no objective method of assessing their effectiveness. Conversely, however, people are sensitive to such things as media coverage of threats that push out the mental benefits of greater security actions. The fear itself may be unjustified in physical terms, but reducing it is enhances social welfare. There may also be benefits that are external to those using transportation or working in supplying it, for example to those living in the neighbourhood.

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10 One of the most important security measures involves the collecting and acting on intelligence before any attack on an airliner or airport can be attempted. We tend to spend less time on this here because it is part of a wider security issue, and by its nature the relevant parameters are not known.
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The cost of security curve also has its complexities. Attacks can inflict both material damage on the fabric of transportation infrastructure and on vehicles, and injuries and deaths on individuals. The C curve in the figure is drawn to separate-out the minimum marginal costs of incremental units of security, including the additional inconvenience costs to all parties concerned, as well as financial outlays but the overall economic costs may deviate from this. The incentive to provide security at the lowest cost may not be there, for example because the agency involved is a monopoly or their may principal-agent problems if it is a public undertaking, and, in consequence, X-inefficiency may be present in providing the security measures. These, and other factors can push up the cost curve of providing any level of security. Potential inefficiency arises in these types of situation because objectives tend to be opaque, and many of the costs are only indirectly borne by those responsible for the security provided.

The problem of providing security on the lowest cost curve are compounded if there is asymmetrical information concerning the effectiveness of security measures - security experts and consultants, for example, have an incentive to exaggerate the challenges being faced, as have politicians campaigning on a platform of greater security; consultants are after all rent-seeking economic agents operating in a commercial market, and those seeking public

11 While the B and C curves are drawn as smooth functions, in practice there may well be kinks if, for example, shoppers have threshold tolerance levels to the degrees of intrusion that security will impose on them.
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support gain by appearing as protectors. In effect, there is the potential for a degree of regulatory capture of the security system by those involved in providing it or regulating.

On the other hand, the costs of security measures may reduce insurance premiums and other forms of crimes, such as pilferage in the transportation supply chain, if the measures involve positive synergies with other aspects of an activity. The direct costs of security measures may also be mitigated to some extent by the supply chain adjusting of passenger services at other points, either up or down, as other actors modify their behaviour. In these cases the actual cost curve will be lower than that depicted in the figure. The trade-offs involved are empirical questions and inevitably will differ according to circumstance.

Given these complexities, a number of sub-optimal outcomes may emerge. For simplicity, we assume that gains at other points in the supply chain off-set some of the costs of enhanced security and any X-inefficiency associated with it. In other words, \( C^* - C \) is the difference between the full and the narrowly defined minimum financial cost curve of security.

If the attention was purely on the commercial damage that can be caused by acts of terrorism, as for example may be the case of private insurance companies, then security will be undersupplied by \( S - S^* \). But even if the psychological benefits of more assured security are not ignored, then there may be inefficiencies in the provision of security measures leading to inadequacies of \( S - S^{**} \) in their provision if the agencies responsible do not minimize their costs; technically when there is X-inefficiency. If both full benefits are underestimated and costs and the provision of security measures is not done efficiently then the resultant level of security, \( S^* \), could be well below the social optimum.

It is also conceptually possible, if both the costs and benefits are rising with the increased provision of security, from a conceptual perspective that the curves do not intersect because subjective risk assessments results in the perceived benefits of enhanced security measures rising faster than the costs of implementing additional security measures. As a result, the optimal outcome would be an infinite net benefit for ever increasing security. This is unlikely in practice because there is plenty of evidence from behavioural studies that have looked at people’s choices between safe but expensive activities and cheap but more dangerous ones that risk, to use the term loosely, adversity does taper off quite steeply after some point as the perceived danger declines.
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THE COSTS AND BENEFITS OF AIRLINE SECURITY

As highlighted, complete cost benefit analysis of air transport is almost impossible because of the problems in particular of defining the benefit curves in Figure 1. The focus here is thus largely on the cost side\(^{12}\). Security is costly. Part of the burden is borne indirectly by transport users who have their movements interrupted and are obliged to bear additional administrative costs and oversight. In many cases there are specifics changes imposed on the transports system and the revenues hypothecated to state security expenditures. These *pot pouri* of approaches are largely determined by expediency and influenced by notions of equity, and in many case initiated, at least at first, as a short term desire to meet a sudden need for enhanced security. They differ quite considerably between countries. Table 1 provides a comparison of the recorded costs directly borne by airline travellers for security measures, but these are often only partial in the sense that airlines have higher costs of additional training of staff, the fitting of secure cabin devices, and, especially in Israel and the United States, the requirement to carry air marshals that take up otherwise revenue earning seats.

<table>
<thead>
<tr>
<th>Country</th>
<th>Average charge per passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>$14.50</td>
</tr>
<tr>
<td>Germany</td>
<td>$10.57</td>
</tr>
<tr>
<td>Israel</td>
<td>$8.03</td>
</tr>
<tr>
<td>France</td>
<td>$6.88</td>
</tr>
<tr>
<td>Australia</td>
<td>$5.19</td>
</tr>
<tr>
<td>United States</td>
<td>$5.00</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$4.13</td>
</tr>
<tr>
<td>Russia</td>
<td>$2.04</td>
</tr>
<tr>
<td>Italy</td>
<td>$1.90</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$0.00</td>
</tr>
</tbody>
</table>


\(^{12}\) An alternative to the microeconomic based cost-benefit analysis approach to terrorism is to look at it from the perspective of its potential macroeconomic impacts and compare those with security costs, see for example, European Commission (2001) *Overview of EU Action in Response to the Events of 11 September and Assessment of their Likely Economic Impact*, Commission of the European Communities, Brussels. This, however, does not solve the problems of calculating the uncertainty of the benefits of reducing terrorist fears on the macro economy or assessing usefulness of security expenditures.
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In addition to payments by travellers there are large budgetary costs borne by the public sector - Table 2 provides an example of one part of America’s expenditure. What these sorts of figures do not capture, however are the public costs of intelligence work that is a key element in providing information about potential terrorist threats and, thus in reducing the uncertainties involved, and the costs of such things as maintaining local military presence to deal with incidence.

Table 2. Aviation spending by the US Transportation Security Administration budget, 2001-2008 ($million)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Transportation Security Administration budget</th>
<th>Aviation security component: administration request</th>
<th>Aviation security component: congressional appropriation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>1,600</td>
<td>1,600</td>
<td>1,600</td>
</tr>
<tr>
<td>2002</td>
<td>5,245</td>
<td>5,245</td>
<td>5,245</td>
</tr>
<tr>
<td>2003</td>
<td>5,900</td>
<td>5,132</td>
<td>5,845</td>
</tr>
<tr>
<td>2004</td>
<td>5,300</td>
<td>3,617</td>
<td>3,724</td>
</tr>
<tr>
<td>2005</td>
<td>6,100</td>
<td>4,238</td>
<td>4,324</td>
</tr>
<tr>
<td></td>
<td>Offsetting collections 2,330</td>
<td>1,823</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>6,300</td>
<td>4,735</td>
<td>4,566</td>
</tr>
<tr>
<td></td>
<td>Offsetting collections 3889</td>
<td>1,990</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>6,700</td>
<td>4,655</td>
<td>4,669</td>
</tr>
<tr>
<td></td>
<td>Offsetting collections 3,736</td>
<td>2,420</td>
<td></td>
</tr>
<tr>
<td>2008 (proposed)</td>
<td>6,800</td>
<td>4,953</td>
<td>Pending</td>
</tr>
<tr>
<td></td>
<td>Offsetting collections 2,613</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


To put more flesh on the situation, before the September 11, 2001 terrorist attacks, airlines in the United States were responsible for providing passenger screening and the FAA was supposed to promulgate performance and training standards. The airlines hired roughly 19,500 screeners from private security companies to perform screening procedures at American airports13. After the attacks, some observers have claimed that reliance on private screeners was disastrous, but it should be noted that the screeners were subject to

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government regulations. In any case, the Transportation Security Administration was created, and in February 2002 it assumed responsibility for screening at virtually all United States airports. By the end of 2002 the Transportation Security Administration deployed a workforce that, accounting for temporary employees, had grown to more than 50,000 screeners.

Passengers pay $2.50 for each leg of their flight, up to a maximum of $10 per round trip, to help pay for security screening. Airlines then remit the fees to the Transportation Security Administration to support its annual budget of roughly $5.5 billion. To facilitate flexibility in staffing that can respond to changes in airline service, airports have been given the option to replace federal screeners with screeners from private companies. But private screeners are still overseen by federal employees and are required to be paid at least as much as federal ones, and to have undergone the same training. Not surprisingly, only a handful of small airports have applied to the government to use privately employed screeners.

In response to air travellers’ complaints about the excessive delays created by the Transportation Security Administration screening at major airports, a “registered traveller” program was initiated to create special, speedier airport security lines for people who are willing to pay an annual fee of $50 to $100 and undergo background checks. However, the Transportation Security Administration has refused to follow Congress’ direction to conduct background checks on registered traveller applicants and to provide expedited screening to those who passed. This undercuts the potential value that the three approved registered traveller companies offered to members, and appears to have caused the largest provider, Clear, to enter bankruptcy in June 2009. Current screening procedures are costly for passengers. The annual cost of Transportation Security Administration security that it includes in its budget of $5.5 billion, embraces several billions of dollars in time costs incurred by passengers waiting to be screened, and $1.1 billion in lost revenue to airlines from reduced passenger volume at major airports. Using a different method of calculation, Blalock, Kadiyali and Simon estimate that the additional screening after 2001 resulted in a 6% loss in passenger volume in the United States and 9% at the country’s busiest airports. There is also evidence that these impacts were not simply short term but persisted for some time.

How successful the security systems have been is unclear; although from the perspective

of meeting simple physical criteria the system is manifestly not perfect. In a study of the Federal Air Marshal Service, Stewart and Muller\textsuperscript{17}, for example, estimated that the annual cost amounted to $180 million; greatly in excess of the social willingness-to-pay. The Office of Inspection reported in 2009 that the Transportation Security Administration had spent more than $800 million on new air passenger screening technology between 2002 and 2008, but had not used any of it. The Government Accountability Office, and TSA routinely test airport screeners’ ability to intercept weapons smuggled through checkpoints. The results have been poor. Federal screeners had intercepted some seven million prohibited items by 2005, but only six hundred were firearms while the rest were nail scissors, penknives, and the like\textsuperscript{18}. Both the Government Accountability Office and the Transportation Security Administration found that screening was no more effective by April 2005 than before September 11, and in 2006 screeners failed 20 of the Transportation Security Administration’s 22 tests\textsuperscript{19}. The United States Government Accountability Office\textsuperscript{20} reported that covert tests through June 2007 conducted by the Transportation Security Administration’s Office of Inspection identified vulnerabilities in the commercial aviation system at airports of all sizes and that the Administration apparently lacks a systematic process to ensure that the Office of Inspection’s recommendations are appropriately incorporated to improve airport security. Instead of expending billions of dollars in time and money to confiscate firearms and using Federal Air Marshals, Stewart and Mueller\textsuperscript{21} conclude that it was far more cost effective to put bulletproof doors on cockpits, which the airline industry did for some $300 million to $500 million.

Other inefficiencies suggest that airports could obtain the current level of security at much lower cost. For example, the large costs associated with passengers’ excessive waiting times at heavily used airports could have been sharply reduced if the Transportation Security Administration had efficiently implemented a nationwide registered traveller program with technology that expedited screening. Airports are finally able to offer such a service, but Transportation Security Administration eliminated its perfunctory security assessment of registered traveller applicants, thereby requiring registered travellers to go through the identical screening hassles as all other airline travellers.

Wait times would also be reduced efficiently if the Transportation Security Administration’s labour force were flexible and could be deployed in response to the peaking characteristics of air travel throughout the day and during certain times of the year. Transportation Security Administration’s large budget has come under fire for wasteful expenditures on inappropriate or outdated technology and a bloated labour force described by critics as “thousands standing around.” The Transportation Security Administration was embarrassed when a graduate student exposed the uselessness of its boarding-pass identification check by developing a fake boarding pass that would enable an individual to pass through security and get to any airport gate. In the summer of 2008, a traveller wearing an Osama bin Laden t-shirt under his coat cleared security at Minneapolis airport with a phony Northwest Airlines boarding pass and no photo identification. Stross argues that conducting basic investigation and intelligence appears to be more cost effective than performing identification checks, maintaining secret databases, and instituting no-fly lists, although he does not provide any rigorous analysis. Perhaps the more basic question is whether these events undermine the role of security in maintaining public confidence in the system.

A more fundamental concern is whether the Transportation Security Administration should even exist. One alternative that is likely to be superior to the Administration on cost-benefit grounds is a variant of Israel’s model, where a branch of law enforcement receives additional funding and is responsible for questioning and identifying suspicious passengers. Turning to the private sector, security firms have been able to provide effective and subtle security for millions of customers at high-risk facilities in the United States, such as casinos in Las Vegas and Atlantic City, and major amusement parks. Private security firms could be hired at airports, not just to replace federal with private screeners, but to develop security strategies and make safety investments to anticipate and respond to potential terrorist attacks without being constrained by the federal government’s regulatory oversight. Such firms could also be bonded, giving them strong financial incentives to provide effective security. As noted, private screeners that were used before September 11, 2001 were regulated by the government. Indeed, it has been claimed that government bureaucracy has discouraged research and development of innovative solutions to combat terrorism, causing a political disagreement over whether the government or the private sector should drive the development of security technology.

While these are the direct costs of trying to limit the terrorist threat, there are also potential

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23 There are some that think it is undermining confidence; e.g. see Mann, C.C. (2012) Smoke screening, Vanity Fair, December 20.
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indirect consequences not captured in accountancy style calculations. In particular, the additional costs of air travel, both in monetary terms, and in the context of longer waiting times and the inconvenience of screening can lead to individuals switching to alternative, less safe modes of transport. The studies that have looked at this have deployed quite basic methodologies and focused on short distance travellers switching to the automobile; driving is more dangerous than flying. In this context, Rossiter and Dresner25 estimate the impacts of security measures implemented immediately after 2001 in the United States on travel behaviour was an additional 66 lives lost through car accidents. Taking the forth quarter of 2002 as a case study, Blalock, Kadiyali and Simon26 came to a much higher figure of 129 people who lost their lives in automobile accidents as result of modal transfer. The exactitude of such calculations is clearly in some doubt, and in part depends on the threshold travel distances fed into the calculations, but there is a generalized-cost elasticity of demand between flying and driving, and transfers inevitably have occurred.

THE INTERNATIONAL RESPONSE TO SECURITY

International coordination of air transport security is relatively new. Air transport does, however, clearly have public good elements to it - e.g. a flight from a secure American airport to a secure French airport provides both non rival and non-excludable protection for passenger located in the French airport27. Thus, to ensure optimal provision of security, given the lack of incentive for the private sector to do so, international coordinated policies are required28. Again, however, much of the concern has been with legal matters and regulation rather than economics.

With the benefit of hindsight, it may seem hard to imagine how the need to address acts of sabotage, unlawful seizure of aircraft and the use of civil aircraft in terrorist attacks could have been overlooked by the drafters of the Convention on International Civil Aviation (the Chicago Convention) that in 1944, under the auspices of the United Nations, laid the modern institutional framework for international air transport. This laid out the various “freedoms of the skies” that has allowed for the development of international agreements on airline traffics and established the International Civil Aviation Organization that allowed for their further development. Security was not, however, a major interest at the Convention and the focus was on establishing air services.

26 Blalock, Kadiyali and Simon, op cit.
28 The problem can also be thought of as a game, see Coughlin, Cohen, and Khan op cit.
When security did arise as a serious issue in the late 1960s, the Chicago Convention was adapted to provide an international framework for addressing acts of unlawful interference. Since that time the International Civil Aviation Organization has modified and updated its institutional oversight over security eleven times. In addition, individual countries, or groups of countries, have initiated their own security policies and measures that have often extended beyond the International Civil Aviation Organization’s regulations, and have also been active in enforcing international air transport policies.

Initially, the International Civil Aviation Organization’s security-related work focused on developing Standards and Recommended Practices for inclusion in Annex 17, but over the years, its work in the field of aviation security has broadened. Since the late 1980s, it has relied on the advice of 27 State nominated and five industrial observer members who sit on its the Aviation Security Panel. In addition, other bodies of experts that play a pivotal role in the International Civil Aviation Organization’s security work are the Ad Hoc Group of Specialists on the Detection of Explosives and the International Explosives Technical Commission. These specialists focus on up-dating the Technical Annex to the Convention on the Marking of Plastic Explosives for the Purpose of Detection, which came into force in 1998.

Each State party to the Convention is required to prohibit and prevent the manufacture in its territory of unmarked plastic explosives.

The Organization’s of other activities in the field of aviation security includes efforts to enhance the security of travel documents, notably the machine readable travel document programme, and improve the training of security personnel. In addition it provides support for regional security initiatives.

While the efforts of the United Nation’s body has clearly been important for enhancing international aviation security, its role, as can be seen from our short history, has often been reactive rather than proactive. In some cases, countries such as the United States and entities such as the European Union have acted beyond the Organization’s basic requirements and have also used unilateral policing powers. One problem with the International Civil Aviation Organization is that it was never designed to deal with security matters; it was formed essentially to facilitate trade in international air services. As such its expertise and approach is often legalistic and designed at institutional design rather than at addressing the more detailed matters of security. It is also a large, and thus cumbersome body that requires coalitions of interests to move policy. National differences in concerns about safety and the costs of implementing measures make formations of such coalitions challenging.
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Additionally, individual states have their own particular terrorist threats and dealing with this often requires reciprocity between pairs or small groups of countries rather than more generic measures.

CONCLUSIONS
The events of over a decade ago in the United States have produced significant changes in the way air transport security is viewed and in the ways that security policies are implemented. Many of these measures were initiated quickly after the September 11 attacks with limited consideration of their overall economic justification. Subsequently there have been some attempts at developing cost-effective measures but primarily in terms of meeting physical criteria, such as the number of individuals who take weapons through screening, rather than less tangible outcomes such as terrorist attacks thwarted; for all that is known there may have been no real increase in threats after 2001. The issue is actually a rather less exact quantification of the economic efficiency of security measures than making sure that they are thought about is an appropriate economic manner; security is a “good” and like any other good there is an optimal amount that maximizes the net benefits for society. Put another way, putting excessive resources into security means the terrorists have essentially won because of the high costs imposed directly and indirectly on individuals, as much as putting too few resources into it means they have won because of the large scale visible damage they can cause.
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The Effectiveness of the Montreal Convention as a Channelling Tool Against Carriers

Peter Neenan

This article considers extent to which the Montreal Convention and Article 29 of the Montreal Convention in particular require or encourage the channelling of claims for liability arising out of a passenger injury or death against a carrier. Furthermore the article considers the particular features of aviation investigations, and the effect that this has on a Plaintiff’s ability to identify potentially liable parties and fairly investigate that liability ahead of limitation.

1. THE ACCIDENT

Imagine the scenario: a large scale aircraft accident has taken place. Many passengers died or were seriously injured. The aircraft was on an international flight between two states that are party to the Montreal Convention, the latest in a series of Conventions governing liability in international air transportation. The official investigation, run in accordance with Annex 13 of the Chicago Convention 1944, begins. Media speculation has placed the blame for the aircraft accident with a multitude of parties, from the pilots flying the aircraft, to the aircraft manufacturer and even the Air Traffic Control (ATC).

The scenario above is a common one, and the speculation inevitable following any major aviation accident. The media speculation is, of course, just that. The facts that need to be examined in order to reach a definitive conclusion about the cause of an accident are entirely in the control of the Annex 13 investigative body or a judicial investigative body. Under Annex 13, the state responsible for commencing and presiding over the investigation is the State in which the accident occurred. Parties invited to appoint an accredited representative are the State of Registry, the State of the Operator, the State of Design and the State of Manufacture. Families of deceased passengers or indeed surviving passengers may not be a party to that investigation; however a State which suffers significant fatalities to its citizens or serious injuries to its citizens may be permitted to nominate a representative with reduced powers under Standard 5.27. This is a practice that few States seem to exercise. Pursuant to a recent change in EU law, families of victims are provided greater rights including the right to

1 MSci Theoretical Physics (Dunelm), GdL, LLM Advanced Air and Space Law (University of Leiden, Netherlands); associate with the Aviation Department at Stewarts Law LLP in London, England.
2 Convention on International Civil Aviation, signed at Chicago on 7 December 1944. Doc no. 7300/9 (hereinafter ‘Chicago Convention’)
3 Examples of such investigative bodies are the Air Accident Investigation Branch (AAIB), UK; National Transportation Safety Board (NTSB), US; Bureau d’Enquêtes et d’Analyses (BEA), France.
4 The State of Occurrence, see Standard 5.1
5 See Standard 4.6
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be appointed a representative in the investigation that they can receive information from\textsuperscript{6}.

On some occasions, judicial investigations have been afforded rights of control over the evidence ahead of the Annex 13 investigation. In Europe, with Regulation 996/2010, cooperation is preached but primacy has been given to the Annex 13 investigation allowing the investigator-in-charge to retain control over the most vital pieces of evidence, the flight data recorders\textsuperscript{7}.

In the US, the NTSB Investigator In Charge is provided power to name additional parties\textsuperscript{8}; however this only extends to persons that were “involved in the accident or incident and who can provide suitable qualified technical personnel actively to assist in the investigation”\textsuperscript{9}. In \textit{Graham v. Teledyne Continental Motors}\textsuperscript{10} the Ninth Circuit held that it did not abuse its discretion by denying party status to the estate representative of a pilot that died in a plane crash: “The use of the [engine manufacturer’s] facilities and expertise could be indispensable in enabling the NTSB to carry its mission. By contrast, there is nothing unique [that the deceased’s pilot’s] expert could add to the investigation”\textsuperscript{11}.

The sole objective of the Annex 13 investigation “shall be the prevention of accidents and Incidents” and “[i]t is not the purpose of [the investigation] to apportion blame or liability”\textsuperscript{12}. Of course, the same evidence that is used by the Annex 13 investigation to improve safety and not apportion blame or liability is vital to any civil litigation investigation which aims to do precisely that: In reality “both practitioners and courts recognize that [accident investigation reports] contain valuable evidence”\textsuperscript{13}, and the determinations of an accident report will often flavour settlement discussions as well as provide vital evidence if the matter proceeds to trial.

All of the above means that when an accident happens, families, their lawyers and experts have no right to examine evidence directly and can only investigate the causes of the accident and identify potentially responsible parties to the extent that evidence released by the Annex 13 investigation permits. Usually this takes the form of interim reports, the final report or release of the evidence following completion of the Annex 13 investigation.


\textsuperscript{7} Article 12(1) Regulation 996/2010

\textsuperscript{8} Graham v. Teledyne-Continental Motors, 805 F.2d 1386, 1389 (9th Cir. 1986) and NTSB Investigative Process (online)

\textsuperscript{9} 49 C.F.R. § 831.11(a)(1)

\textsuperscript{10} Supra note 8

\textsuperscript{11} 805 F.2d 1386, 1389

\textsuperscript{12} Standard 3.1 Annex 13, Chicago Convention

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It is with this investigative hindrance that Plaintiff attorneys must advise who should be sued on the Plaintiff’s behalf.

2. THE MONTREAL CONVENTION AND PRE-EMPTIVE EFFECTS

When Plaintiff attorneys first consider the law in relation to an international aviation accident, the 1999 Montreal Convention14 is a good place to start. The Montreal Convention is the latest in a line of instruments dealing with liability in international carriage by air. It started with the Warsaw Convention in 192915, and has evolved through various Protocols and Agreements into the Montreal Convention of 199916.

Article 17 of the Montreal Convention17 provides the basis for the liability of the carrier, and in cases such as the accident scenario presented in section 1, where both the State of departure and destination have ratified the Montreal Convention, and in cases where the event is such a serious accident, the carrier will almost certainly not be able to excuse itself of liability by falling outside the ambit of Article 17(1). The passenger (or dependent in cases of death) should then be compensated for their “damage”18 on the basis of strict liability up to SDR 100,000 (now SDR 113,100) and thereafter liability to an unlimited amount, effected through a reversed burden of proof and presumption of fault19. It is for the carrier to prove one of the exceptions contained in Article 21(2). In reality, in cases of serious aviation accidents, it is unlikely that the carrier will be able to establish one of the exceptions applies. Accidents can have many contributing causes, but like Reason’s Swiss Cheese Model20 they all play a part.

Once the Plaintiff has established that his case falls within Article 17, and provided that the carrier is unable to limit its liability, matters should be simple. Reference is made to the jurisdictions under Article 33, which for the Montreal Convention, provides five options:

• before the Court of the carrier’s domicile;
• before the Court of the carrier’s principal place of business;
• before the Court where the carrier has a place of business through which the contract

17 “The carrier is liable for damage sustained in case of death or bodily injury of a passenger upon condition only that the accident which caused the death or injury took place on board the aircraft or in the course of any of the operations of embarking or disembarking.”
18 Article 17(1) and Article 21 Montreal Convention
19 Article 21(1) Montreal Convention
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was made;
• before the Court of the destination;
• before the Court in which the passenger has his or her principal and permanent residence.21

Despite the apparent simplicity of the above, difficulties can arise: The Montreal Convention may not be the applicable convention, and families will be left with limitations of liability under the Warsaw Convention or Hague Protocol22. Alternatively, Plaintiffs may seek recourse in a jurisdiction that does not fall within the five options of Article 33, or wish to have another party that they feel more responsible held to account in a public hearing.

Is a Plaintiff prevented from choosing how, where and against whom he wishes to bring an action following an aviation accident, to the extent that those decisions conflict with the provisions of the Montreal Convention (or the Warsaw Convention)? Article 29 of the Montreal Convention includes an exclusivity provision:

“In the carriage of passengers…any action for damages, however founded, whether under this Convention or in contract or in tort or otherwise, can only be brought subject to the conditions and such limits of liability as are set out in this Convention”

The pre-emptive effect of this provision may be total: defined by the author as the extinguishing of a cause of action that falls outside of the limitation or conditions of the Convention, leaving the Plaintiff without remedy, for example if an event causing injury to a passenger during international carriage by air does not constitute an accident for the purposes of Art. 1723, or may be partial: defined by the author as the conversion of a cause of action into a cause of action that falls within the limitation or conditions of the Convention24.

The leading case in relation to pre-emption is El Al Israel Airlines, Ltd v. Tsui Yuan Tseng25, where the Court stated that to the extent recovery is “not allowed under the Convention, [it] is not available at all.”26

21  … and to or from which the carrier operates services for the carriage of passengers by air (directly or pursuant to a commercial agreement) and in which the carrier has leased premises (owned directly by the carrier or used pursuant to a commercial agreement).
23  See e.g. Air France v. Saks, 470 US 392
24  Fishman v Delta Air Lines 132 F 3d 138, 1998 US App Lexis 23: The Plaintiff’s brought an action for negligence and intentional torts under state law. The Court considered that these claims were subject to the Warsaw Convention and as such also subject to the Convention’s limitations (including limitation period) regardless of how and under what law they were plead. The claim was not brought until three years after the accident date and so the Court dismissed these claims as being untimely.
26  Id. At 161
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A brief word ought to be made of some jurisdictions which have had a less uniform approach to the exclusivity provision of the Montreal Convention. The clear pre-emptive effect of the Convention as against the carrier is not quite so clear in all jurisdictions as it is in the US and the UK: “arbiters in some such forums [are] generously permitting litigants to maintain actions under local laws in situations where their claims are untenable under the Convention or where they simply wish to obtain an award beyond the limits it provides. Nigeria, with its ambivalent approach to the exclusivity of the Convention, is to an extent, an example of this kind of forum”.

Following the crash of UTA Flight 141, a criminal case was commenced in the Courts of Lebanon against various officers and employees of the airline. Arguments were raised by Defendants that the Courts lacked jurisdiction pursuant to the Warsaw Convention, and that even if the Court had jurisdiction, compensation should be assessed pursuant to the Warsaw Convention as amended by the Hague Protocol and the limits of liability set out therein. The Court held that, “the application of the Warsaw Convention is limited to the prosecution against the Contractual liability of the air carrier and does not include the damages arising from a criminal offence, as is the case in the present action”. The Court awarded damages of between L.L. 400 million - L.L. 500 million to the families of passengers killed in the accident, ignoring the willful misconduct argument as irrelevant since the Warsaw Convention did not apply, and punished members of the airline, servants and other non-airline parties with terms of up to 20 years of hard labour for various acts of negligence and fraud that resulted in the deaths of those onboard. Such decisions remain a significant concern for all Defendant parties, who may find themselves subject to criminal sanctions far beyond the anticipated resolution of claims envisaged by the Montreal Convention in Courts that do not regard the exclusivity of the Montreal Convention as paramount.

Despite these few unusual decisions, the Courts have generally found the Convention to have a pre-emptive effect in cases where the Defendant was an airline, or some other agent or servant, clearly subject to the provisions of the Montreal Convention or Warsaw Regime. What if the Defendant is not an airline? Does the Convention have any pre-emptive effect in these actions?

28 Judgment In the Name of the Lebanese People; No. 371, Case File: 100/2010, Prosecution 537, Investigation No. 4. (translation: original in Arabic)
29 Although this is doubtful to be correct on the passenger tickets
30 Supra note 28
31 Between US $270,000 - US $330,000
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To the aviation attorney, the idea that the Montreal Convention may have some pre-emptive effect in claims against non-carriers will no doubt sound ludicrous. Common practice and a host of cases brought against manufacturers in jurisdictions outside of the scope of those permissible under Article 33 indicate that this is not a position that either the litigating parties, or the Court has taken. The idea was, however, recently proposed by Allan Mendelsohn in his paper ‘Foreign Plaintiffs, Forum Non Conveniens, and the 1999 Montreal Convention’[^32^], who found it to be entirely consistent and only an extension to the Court’s approach in Tseng. Furthermore, it was a Defence that had seemingly never been raised.

This paper does not discuss the benefits or otherwise of extending Tseng, as discussed in the paper by Mr Mendelsohn. Instead the purpose of this paper is to consider exactly what the Montreal Convention says on this point and how the Court might find if the Defence was raised. Would the Courts take a total pre-emption position, extend Tseng and find that to the extent recovery is not sought from the carrier under the Convention, [it] is not available at all? Alternatively, would the Courts take a partial pre-emptive stance and convert the terms and limitations of a claim against a non-carrier to be consistent with those against the carrier, such that if jurisdiction didn’t exist against a carrier, jurisdiction doesn’t exist against anyone? Or would the Court find simply that the Convention did not apply to cases against non-carriers and it had no room to extend its application?

At first blush, the exclusivity principle appears to cover all actions:

*any action for damages, however founded, whether under this Convention or in contract or in tort or otherwise, can only be brought subject to the conditions and such limits of liability as are set out in this Convention* *(emphasis added)*

Certainly, this clause appears to have a global effect, carefully worded to ensure that it encompassed any action in whatever form it was created. The cases listed above are testament to the global nature of the presumptive effect at least as against those actions presented against the carrier, but there remains doubt about the effect on other parties, not covered by the Montreal Convention.

### 3. INTERPRETATION: THE VIENNA CONVENTION, TRAVEAUX PRÉPARATOIRES AND CASE LAW

The Vienna Convention on the Law of Treaties[^33^] provides a number of primary grounds of


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treaty interpretation. Article 30 states that treaties must be interpreted “in good faith in accordance with the ordinary meaning given to the terms of treaty in their context and in light of the object and purpose”\(^{34}\). Looking to the object and purpose, one sees only the principles of modernisation, uniformity, harmonization and codification\(^{35}\), but no express mention of channelling, exclusivity of carriers or the exclusion of other parties. Article 29 falls within the chapter: ‘Liability of the Carrier and the Extent of Compensation for Damage’, suggesting perhaps that it only concerns the carrier. However, the inference is weak.

Support to the idea of channelling against the carrier may be inferred by the addition of a Right of Recourse clause. Article 37 of the Montreal Convention states\(^{36}\): 

> “Nothing in this Convention shall prejudice the question whether a person liable for damage in accordance with its provisions has a right of recourse against any other person”

This provision appears to imply a type of channelling of claims through the carrier; that actions should be presented to the carrier (or to the agents or servants of the carrier), who afterwards may pursue those parties *truly* responsible for the accident.

The Vienna Convention provides the further primary source of interpretation as “subsequent practice which establishes agreement of the parties regarding interpretation”\(^{37}\). One might infer from the numerous cases that have been brought against non-carrier Defendants that the parties agreed that this was permissible and the Convention did not extend to cover such actions. While the point that the Convention prevented this action was never raised in the Court, the *practice* evidenced that the parties did not believe that the point was there to be raised. In *Sidhu v. British Airways PLC*\(^{38}\), the Court confirmed what was sought to be achieved by the Warsaw Convention\(^{39}\); “a uniform international code, which could be applied by the courts of all the high contracting parties without reference to the rules of their own domestic law. The Convention does not purport to deal with all matters relating to contracts of international carriage by air. But in those cases with which it deals - and the liability of the carrier is one of them - the code is intended to be uniform and to be exclusive also of any resort to the rules of domestic law”\(^{40}\). There is no suggestion in Lord Hope’s judgement that the liability of parties other than the carrier is an issue with which it deals, and for clarity’s sake, the contention that non-carrier parties will bear no direct liability from passengers or

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35 Montreal Convention preamble

36 Article 37 Montreal Convention

37 Article 31(3)(b)

38 [1997] SC(HL) 26

39 And therefore the Montreal Convention

40 [1997] SC(HL) 26
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their families would certainly be the Convention taking a position on the liability of non-carriers.

The inapplicability of the Warsaw Convention to non-carriers was held by the US Court in Re Paris Air Crash of March 3, 1974, where the Court stated, “On the face of their texts, neither Warsaw nor Hague, nor Montreal [Protocol], apply to the United States or to McDonnell Douglas or General Dynamics”. However, the Court was being asked to consider choice of law, and not the question in discussion.

In France, the Highest Courts have found that the exclusivity of the Convention does not apply to passenger’s claims made against the manufacturer, enabling them to pursue the manufacturer for compensation. Following the Gulf Air accident on 23 August 2000, the Cour de Cassation found that the Plaintiffs had correctly established jurisdiction against the manufacturer, Airbus, but that the exclusivity provision applied only to the claims against the carrier, Gulf Air. Consequently, the claims against the carrier were dismissed but the claims against the manufacturer were allowed to continue. Therefore, in France, the exclusivity provision does not apply to claims against the manufacturer, and Plaintiffs are neither forced to bring suit against the carrier, nor have their claims against a manufacturer limited to the conditions and limitations of the Convention.

Outside of France, one might find that the position is more ambiguous than anything else. There are arguments either way, and certainly the practice in the US suggests at the very least that the parties have not previously believed that the point could be raised. Nevertheless, Article 32 of the Vienna Convention on the Law of Treaties provides further that “recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meaning resulting from the application of article 31, or to determine the meaning when the interpretation

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41 In Re Paris Air Crash of March 3, 1974, 399 F. Supp. 732 - Dist. Court, CD California 1975
42 Ibid, 399 F. Supp. 732 at 747
43 Despite some first court decisions breaching the exclusivity provision by finding that jurisdiction against the airline could be imputed by establishing jurisdiction against another party See Decision of the French Republic on Behalf of the French People Arising out of the Accident of Gulf Air Flight, Cour de Cassation, Civil Division 1, Public hearing on 12 November 2009 Appeal No.: 08-15269 (referring to the decision of the High Court in Toulouse on July 23, 2002 where jurisdiction over Gulf Air was awarded on the basis of the Brussels Convention); and, See Decision of the French Republic on Behalf of the French People Arising out of the Accident of Kenya Airways Flight, Cour de Cassation, Civil Division 1, Public hearing on 11 July 2004 Appeal No.: 04-18644 (referring to the decision of the Court of Appeal of Toulouse on April 27, 2004 where the Court of Appeal held that there was no express provision in the Warsaw Convention stating that a Court competent to rule on the claim against a Defendant could not rule on a related claim against the carrier).
44 Decision of the French Republic on Behalf of the French People Arising out of the Accident of Gulf Air Flight, Cour de Cassation, Civil Division 1, Public hearing on 12 November 2009 Appeal No.: 08-15269
45 Ibid, see also Decision of the French Republic on Behalf of the French People Arising out of the Accident of Kenya Airways Flight, Cour de Cassation, Civil Division 1, Public hearing on 11 July 2004 Appeal No.: 04-18644
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according to article 31: (a) leaves the meaning ambiguous or obscure; or, (b) leads to a result which is manifestly absurd or unreasonable.”46. At the very least, even if the Court only looks to the black letter meaning of the text47 and extends the pre-emptive effect to cover action against non-carriers, ignoring current practice, they may still refer to the preparatory work of the treaty and the circumstances of its conclusion in order to confirm their reading. Article 32 does not state it may only be applied if Article 31 does not produce a result. In any event, one wonders whether a reading, which prevents a Plaintiff from exercising his right to bring an action against parties that are responsible for his injuries, is a reading that might be considered to be “unreasonable” under part (b).

Consequently, one can look towards the *traveaux préparatoires* of the Montreal Convention for further clarification. In the Montreal Convention *traveaux préparatoires*, the Chairman clarifies the purpose of Article 29:

“Article [29] in effect put fences around how great an exposure the carrier would be liable to, by ensuring that whatever may be the nature of the action and however brought, it was subject to the conditions of the Convention.”48

The second question remains the extent to which it was envisaged that the Montreal Convention would act as a channelling device for claims. The Chairman states:

“[T]he draft Convention was, in a sense, designed to provide a kind of exclusive remedy in respect of damage sustained in relation to death or injury which took place on board an aircraft or during the process of embarking or disembarking.”49

The considerations of the Chairman appear to support the idea that the Montreal Convention was intended to channel claims through the carrier. However, the only mention of third parties such as manufacturers comes in the Chairman’s statement about the fifth jurisdiction Plaintiff’s domicile, where the forum may be found to be inconvenient for, *inter alia*:

“…insofar as it might be asserted that the claim had been caused by an act of the manufacturer - that manufacturer and the evidence to be produced from that manufacturer might reside wholly outside that forum.”50

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46 Article 32 Vienna Convention on the Law of Treaties, emphasis added
47 As applied in Chubb & Son, Inc. v Asiana Airlines, 214 F. 3d 301
48 International Civil Aviation Organization, International Conference on Air Law, Montreal 10-28 May 1999. Volume I, Minutes; Minutes of the Tenth Meeting, Commission of the Whole (Friday, 21 May 1999 at 1130 hours at 24
49 International Civil Aviation Organization, International Conference on Air Law, Montreal 10-28 May 1999, Volume I, Minutes; Minutes of the First Meeting, Friends of the Chairman Group (Monday, 17 May 1999 at 1430 hours at 2 (DCW-Min. FCG/1)
50 International Civil Aviation Organization, International Conference on Air Law, Montreal 10-28 May 1999, Volume I, Minutes; Minutes of the Third Meeting, Friends of the Chairman Group (Monday, 17 May 1999 at 1130 hours at 6 (DCW-Min. FCG/3)
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Unfortunately, it is unclear who the Chairman is asserting would be bringing the action against the manufacturer; whether the Chairman is supporting the position that a Plaintiff may bring a case against a carrier and manufacturer, and the manufacturer resides outside the forum thereby rendering the forum inconvenient and open to a *forum non conveniens* challenge, or whether the Chairman is anticipating an Article 37 third party action by a carrier against a manufacturer. If the former, the Chairman is implying that actions may be brought against the carrier and/or manufacturer thereby undermining support for the extension of the pre-emptive effect of the Montreal Convention to actions against manufacturers. If the latter it raises separate concerns about the inappropriateness of a Court considering a Third Party’s locality as evidence in support of a *forum non conveniens* motion.

However, the wording of Article 29 was not originally drafted for the Montreal Convention. Before looking to earlier versions of the Conventions and their drafting history, it must be considered whether a Court would be permitted to consider earlier versions of a Convention that do not form part of the *travaux préparatoires* of the Montreal Convention pursuant to the rules set out in the Vienna Convention. Article 32 provides recourse to the “preparatory work of the treaty”. While Courts have recognised that the Montreal Convention is not an amendment to the Warsaw system but “an entirely new treaty that unifies and replaces the system of liability that derives from the Warsaw Convention”\(^{51}\), Courts also recognise that “despite its newly aligned purpose, many of the provisions of the Montreal Convention closely resemble those of the Warsaw Convention”\(^{52}\). In the case of *Baah v. Virgin Atlantic Airways*\(^{53}\), the Courts confirmed that Courts can look to “the drafting history of a treaty”\(^{54}\). Furthermore, the Montreal Convention specifically lists the “other Warsaw Convention instruments”\(^{55}\) which make up its history. Consequently, a Court would be able to review the drafting history of Article 29 to review its original purpose and wording.

The exclusivity provision under Article 29 was not drafted at Montreal but merely implemented from an earlier form. Article 29 in its current form was introduced at the 1971 Guatemala City Conference\(^{56}\) (although the Convention this conference produced never entered into force). Considering the form of Article 24 of the Guatemala City Protocol, which becomes Article 29

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54 Ibid
55 Article 55
56 Not Montreal Protocol No.4 as is often suggested (Montreal Protocol No. 4 to Amend Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Warsaw on 12 October 1929, as Amended by the Protocol Done at the Hague on 28 September 1955, Signed at Montreal on 25 September 1975). This was simply the first Convention that actually came into force that included the provision.
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of the Montreal Convention, the delegate of Yugoslavia suggested the following amendment: “The liability of the carrier as established under Articles 17 to 22 of this Convention shall be the sole and exclusive liability of the carrier under all circumstances in respect of damages arising out of an event giving rise to liability for the death or injury or delay of a person…”\textsuperscript{57}

The Commission appear to be in the mindset that only the carrier’s liability would be affected by the Guatemala City Protocol, that the exclusivity did not stretch to \textit{any actions for damages against any parties}, but rather to \textit{any actions against the carrier}. The Commission went further than this confirming that the Guatemala City Protocol, and consequently the Montreal Convention is not designed to provide any protection to the manufacturers or other third parties, whether by allowing them to rely on their provisions, or by creating a positive duty to bring an action against the carrier rather than another responsible party. In response to a concern that, “…the Conference was more interested in protecting the carrier than in protecting others against whom suits might be brought as a result of the death or injury of a passenger…”\textsuperscript{58}, raised by the Delegate of the United States of America, the Delegate of the People’s Republic of the Congo stated: “No doubt one day there would be a Convention protecting the aircraft manufacturer. Meanwhile the conference was being asked to protect the carrier”\textsuperscript{59}

So, what are we left with in the Montreal Convention? As set out above, the intention of the drafters of the Convention appears to not be to create a text which affected the liability of the manufacturers; had they wished to create a positive obligation to streamline liability through the carriers, they may have used language more consistent with the Paris Convention of 1960 on Third Party Liability in the Field of Nuclear Energy\textsuperscript{60}, which states at Article 3(1) that, “the operator of a nuclear installation shall be liable, in accordance with this Convention, for damage to or loss of life of any person”\textsuperscript{61} and “The right to compensation for damage caused by a nuclear incident may be exercised only against an operator liable for the damage in accordance with this Convention”\textsuperscript{62}, or the Vienna Convention of 1963 on Civil Liability for Nuclear Damage\textsuperscript{63} which states at Article II that, “the operator of a nuclear installation

\textsuperscript{57} International Civil Aviation Organization, International Conference on Air Law, Guatemala City, February - March 1971: Volume I - Minutes, Thirteenth Meeting of the Commission of the Whole (Thursday, 18 February 1971 at 0945) at point 24., emphasis added.

\textsuperscript{58} International Civil Aviation Organization, International Conference on Air Law, Guatemala City, February - March 1971: Volume I - Minutes, Twenty-Eighth Meeting of the Commission of the Whole (Monday 1 March 1971 at 1640) at point 38 and 39.

\textsuperscript{59} ibid.

\textsuperscript{60} Convention on Third Party Liability in the Field of Nuclear Energy of 29th July 1960, as amended by the Additional Protocol of 28th January 1964 and by the Protocol of 16th November 1982.

\textsuperscript{61} Ibid Article 3(1)(1)

\textsuperscript{62} Ibid Article 6(1)

\textsuperscript{63} The Vienna Convention on Civil Liability for Nuclear Damage, adopted on 21 May 1963. Entry into force on 12 November
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shall be liable for nuclear damage upon proof that such damage has been caused by a nuclear incident”\textsuperscript{64} and “except as otherwise provided in this Convention, no person other than the operator shall be liable for nuclear damage”\textsuperscript{65}. Such an exclusive right of action does not prevent these Conventions including an, albeit narrow, right of recourse clause at Article 6(6) and Article X respectively.

Unlike these Conventions, the Montreal Convention and its predecessors do not create a positive obligation on a Plaintiff to bring their action only against the carrier; they neither state that no other person shall be liable nor do they state that the right for compensation can only be exercised against the carrier. As it has been seen in the Nuclear Conventions, the channelling of liability against the operator would not in itself prevent the inclusion of a right of recourse clause, and the Montreal Convention could have been set out this way; it was not. Instead, Article 29 offers no firmer application than in circumstances where a Plaintiff has elected to bring an action against the carrier this action must proceed in conformity with the conditions and limitations of the Montreal Convention.

While commentators may feel that there may be reasons to support the extension of \textit{Tseng}, and it would certainly be advantageous for Defendants, the above analysis indicates that it was not the intention of the drafters that the Montreal Convention be extended for this purpose. Consequently the Court should not create new law inconsistent with the intention of the drafters of the Montreal Convention by extending the meaning of the exclusivity principle to this end.

It would seem that there is no positive channelling of all actions through the carrier. Certainly this is true academically, and while it appears that in the minds of the drafters they believed that the Montreal Convention would encourage claims to be brought against the carrier, they did not make any specific provision requiring that to be the case. Despite this, the Montreal Convention does offer an attractive liability regime against the carrier. Regardless of the concerns of some scholars that “we have to provide negligence because we need the fault system to help keep aviation safe and secure”\textsuperscript{66}, the Montreal Convention in its current form was victorious and aviation safety continues to improve. Furthermore, with the imposition of such a simple system of fault, an action against the carrier remains the simplest, fastest and most guaranteed avenue for recovery against any party. As the International Union of

\textsuperscript{64} Ibid Article II(1), where nuclear damage is defined to include loss of life and personal injury.
\textsuperscript{65} Ibid Article II(5)
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Aviation Insurers noted, “the carrier, by virtue of his role, is implicated to some degree almost automatically... and the carrier is likely to prove the immediate source of payment for a Plaintiff. The carrier could subsequently claim contributory damages from a third party, although this would be a long process in cases where the cause of the accident were difficult to determine.”

They went on further, “if a carrier or its insurer is involved in an accident where there appears to be a strong likelihood of product liability, the case can be defended on the basis of Article 20(c)68. The manufacturer would be brought in... It would only be at trial that the issue would be decided whether or not the defence was available to the carrier. At the same time the extent of the manufacturer’s liability would be ascertained and the order of the Court would be that there should be an apportionment.”

Considering the above comments of the IUAI and disregarding for the present purposes the issues of jurisdiction, this is a simple approach provided the carrier actually elects to bring in the manufacturer or third party and not simply limit its exposure to 100,000 SDR by action of 21(2) of the Montreal Convention. There is no obligation on the carrier to provide a separate Defendant for the exposure above 100,000 SDR - they need only prove that they were not responsible. Indeed, as Lee Kreindler noted, “Let us ... assume that the airline on which the accident happened believes the accident was caused by the negligence of the manufacturer. Who sues and impleads whom and what are the consequences? Representing the Plaintiff, we would sue both the original contracting airline and the one on which the accident happened, and the manufacturer as well. The results are uncertain.”

4. CONCLUSIONS
The investigative hindrance that Plaintiff attorneys suffer as a result of their exclusion from the accident investigation, as set out in the part 1, together with the simplicity of the Montreal Convention liability regime certainly encourages channelling of claims against the carrier, but where there is a potential product or other claim, the prudent Plaintiff attorney will seek recovery from all potentially liable parties.

This investigative hindrance is further frustrated by the timing of the official investigations, and the limitation period of actions against third parties. In many jurisdictions70, limitation
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periods for actions against potentially responsible third parties (such as manufacturers or maintenance companies) are limited to two years from the date of the accident. If no report and no information have been released by the investigative body, Plaintiffs may have no firm evidence on which to assess who the potentially liable parties are.

The Chicago Convention Annex 13 provides at Standard 6.5 that the Final Report should be released “as soon as possible”\(^{71}\), and provides a recommendation that, if possible, the report should be released “within 12 months of the accident”\(^{72}\) and if not, an interim report should be released on every anniversary of the crash\(^{73}\). Sophisticated accident investigation bodies such as the NTSB\(^{74}\), BEA\(^{75}\) or AAIB\(^{76}\) neither lack the resources nor willpower to adhere to this principle.

However, for many accidents, particularly those outside of Europe or America, problems often arise in respect of this rule on limitation and the lack of strict guidelines provided to states for the release of Final reports. In some countries no release of a Final Report (or evidence) following an aviation accident has ever taken place\(^{77}\), while in others, the Final Report was released only after the two-year limitation had expired\(^{78}\).

A Plaintiff should have the freedom to choose from whom he wishes to seek compensation. It was not the intention of the drafters of the Montreal Convention to restrict this right, and it appears to be a perverse feature of international aviation investigation and litigation that in some cases, despite their requests, Plaintiffs have been stripped off this right because they cannot gain access to the evidence they desperately need to analyse in time of limitation. They are forced to build cases based upon the limited facts that they know, or to accept the channelling of the claim through the carrier, against their will.

\(^{71}\) Standard 6.5
\(^{72}\) Recommendation 6.6.
\(^{73}\) Ibid
\(^{74}\) National Transportation Safety Board, US
\(^{75}\) Bureau d'Enquetes et Analyses, France
\(^{76}\) Air Accident Investigation Branch, UK
\(^{77}\) For example, Iran or Libya
\(^{78}\) For example, Cameroon only released the final report into the crash of Kenya Airways Flight KQ507 three years after the accident
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From Cape Town to Berlin - A new instrument for financing space assets
by Bernhard Schmidt-Tedd and Erik Pellander

BERLIN PROTOCOL
The International Institute for the Unification of Private Law (UNIDROIT) has developed a Convention on International Interests in Mobile Equipment designed for three different sectors of investment: aviation, railway and space. The so-called Cape Town Convention (2001) became effective with the entry into operation of the Aircraft Registry, based on the Aircraft Protocol. Between the 1 March 2006 and 31 December 2011 approximately 313,000 registrations had been made against 125,000 aircraft objects (airframes, aircraft engines and helicopters). The new financing instrument lowered financing expenditures of aviation assets up to 30 per cent. In Berlin, a Diplomatic Conference invited by the German government, finalized the Protocol on Matters Specific to Space Assets after many years of preparatory work and five sessions of the Committee of Governmental Experts. Forty States and different International Organizations represented by nearly two hundred participants have negotiated until the Final Act. This Berlin Protocol is now open for signature since 9 March 2012, the concluding day of the Diplomatic Conference. Due to the rapidly developing space technology and the legal environment - sovereign-free outer space, State responsibility for private activities and in general only indirect possession of space objects - this Space Assets Protocol to the Cape Town Convention, now Berlin Protocol, was indeed the most challenging subject matter.

INTERNATIONAL INTEREST
National interests such as lien, title reservation agreement or title transferred as security are not recognized in all countries, and even if, they might lose their validity when the secured object crosses borders. In consequence transaction costs are higher than necessary. In order to overcome those limitations in financing high value cross border equipment UNIDROIT formulated the new internationally recognized interest, based on an international agreement. Through registration in a worldwide online accessible registry the ranking and priority of the international interest becomes transparent. The right is insolvency-resistant and in case of default the remedies of the creditor are clearly defined. In general the Convention applies (Art. 3) when the debtor is situated in any Contracting State of the Convention and the relevant protocol, independent of the location

1 The views expressed in this article represent only those of the authors. Schmidt-Tedd is Head and Pellander Collaborator of the Legal Support Space Administration of the German Aerospace Center (DLR).
2 Martin Stanford, UNIDROIT-Statement at the 51st session of the Legal Subcommittee of UNCOPUOS, Agenda Item 9, Vienna 20 March 2012
3 All relevant material is available on the UNIDROIT Webside: http://www.unidroit.org/english/studies/study72j/main.htm (last visited: 11 April 2012)
4 The Cape Town Convention has in the meanwhile 51 Contracting Parties.
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of the creditor. The international interest is based on a written contract between creditor and debtor in form of a security, title reservation or leasing agreement (Art. 2, para. 2(a)-(c)). The charger must have the power of disposal over the object. Furthermore, it is essential that the security object is uniquely identifiable. The Cape Town approach excludes that an interest against an asset could be registered without knowledge or against the will of the owner (Art. 20).

ASSET-BASED FINANCING

Today, project-based financing is the common approach in commercial space activities. Financing is secured by specific agreements and the underlying business case. In contrast, the new international interest takes the value of the asset as such as a security. This facilitates loan securing and offers new opportunities for limited investments in complex structures. Nevertheless, asset-based financing is only an option and does not affect traditional forms of financing.

Two elements are inevitably linked to asset-based financing in space: commercially it is a completely new option with potential for tapping new markets and in legal terms the transfer of ownership under the Berlin Protocol takes place in the legal environment of the UN Space Treaties. Therefore, a license for private space activities or for a cross border transfer of ownership according to Art. VI Outer Space Treaty - as implemented by national space legislation - is not an annex-right to property. Contradicting expectations have not and should not be met. But this is no obstacle for space business, it is just the same legal situation as for transactions without external financing needs.

HOW THE BERLIN PROTOCOL ADDRESSED THE INDUSTRY’S CONCERNS

The initiative to create a Space Assets Protocol was generated by the commercial space sector at the end of the 90’s. A Space Working Group formulated a first draft and passed it to UNIDROIT for further development.

During the third session of the Committee of Governmental Experts in 2009 some major satellite operators expressed concerns against the Protocol, which have been discussed and reflected as far as possible during the following two years. The text of the Protocol changed significantly in response to those concerns. The final draft was unanimously adopted at the fifth conference in February 2011 and by decision of the Governing Council of UNIDROIT in May 2011 transferred to the Diplomatic conference.

Nevertheless, representatives of the major satellite operators argued that UNIDROIT “has consistently disregarded the views of the satellite manufacturing, operator and financing communities in the UNIDROIT meetings and drafting.” According to an industry letter the general

concern was expressed that “the draft Protocol offers no tangible benefits for commercial satellite operators and financiers”.

In legal terms the industry's concerns were mainly based on the following issues:

- the sphere of application of the Protocol with particular reference to the term “space assets”;
- the priority of competing rights regarding components in the context of exercise of default remedies;
- the public service exemption from default remedies;
- the issue of salvage interests in space assets;
- criteria for identification of space assets for the purposes of registration; and
- debtor's rights and the assignment of debtor's rights.

In the following it will be pointed out that, in fact, a number of those concerns have been taken into account in the drafting negotiations of the Berlin Protocol.

**The sphere of application of the Protocol with particular reference to the term “space assets”**

The term “space asset”, as defined in Art. I, para. 2 (k) Berlin Protocol, was subject to controversial negotiations.

In this regard certain sectors of the industry raised the concern, that the requirement that an asset needs to be “capable of being independently owned, used or controlled”, as it was the wording of the draft Protocol of April 2010 and November 2010, might exclude valuable components that do not fall under this criterion. In the draft Protocol as authorized for transmission to the Diplomatic Conference in Berlin and in the text as it was adopted in Berlin, however, the criterion “capable of being independently owned, used or controlled” was replaced by the criterion “in respect of which a separate registration might be affected in accordance with the regulations” - an approach that in particular meets the industry's needs, as the regulations will be adopted and amended in co-operation with the stakeholders concerned.

An additional issue in relation to the definition of “space asset” was the category of objects “intended to be launched [...] [including any such asset in course of manufacture or assembly]”.

It was submitted, that as far as the financing of assets that have not been launched yet is concerned the creditor would in any case need to file a financing statement under the applicable domestic law. This concern was addressed in the draft Protocol as authorized for transmission to the Diplomatic Conference in Berlin and as adopted. The wording “intended to be launched” was replaced by the phrase “designed to be launched”. Thus, a creditor's interest in an object that have not been launched yet, including those in manufacture or assembly, that is registered claims priority vis-à-vis other creditors irrespective if and when the launch takes place.

Finally, the enumerative approach in the definition of space assets in Art. I, para.2 (k) of an

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Alternative Text prepared for the third session of the Committee of Governmental Experts led to the concern that it might be very difficult, if not impossible, to come to universally accepted definitions of those objects (satellite, satellite bus, transponder). While this might have been true for the above mentioned draft, all subsequent drafts used the wording “such as”. This new wording uses in an open manner the method to provide characteristic examples and not an exhaustive definition of the terms spacecraft and parts thereof respectively.

**The priority of competing rights regarding components in the context of exercise of default remedies**

Concerning the priority of competing rights in a space asset that is physically linked with another space asset, such as transponders and hosted payloads, certain sectors of the industry feared that the common practice of inter-creditor agreements on a case-by-case basis was rendered impossible under the Protocol. Therefore, the industry proposal was “to allow creditors to settle potential conflicting rights as regards assets and their component parts that may be separately financed via inter-creditor agreements.”

The text of Art. XVII, para. 3 of the Protocol as it was finally adopted states in accordance with the Joint Proposal of Germany and the United States that only “[u]nless otherwise agreed” the provisions of the Protocol on default remedies in relation to physically or functionally linked assets apply. Thus, the Berlin Protocol gives priority to inter-creditor agreements on default remedies with regard to components physically or functionally linked to another space asset. Art. XVII, para. 3 of the Protocol simply serves as a fall-back clause in absence of such an agreement, in order to ensure that the enforcement of an international interest in an asset physically or functionally linked with another asset does not impair or interfere with the operation of the other space asset.

**The public service exemption from default remedies**

One of the most significant discussion points during the drafting negotiations for both the space industry and the governments was the limitation on the exercise of creditor’s remedies with respect to space assets performing public service. Such a provision needs to balance the interests of governments in the continuance of services which are of public importance, such as e.g. aircraft and maritime navigation, and the rights of the creditors to be paid.

Within the scope of the Diplomatic Conference in Berlin one of the principal opponents on this issue, the USA, basically arguing in favor of the financing industry, and Germany, representing the interests of the states to maintain the public service, submitted a joint proposal on limitations of remedies in respect to public services, which met with unanimous approval.

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It needs to be highlighted that the text of the Protocol as it stands now reflects a compromise on the issue as to the amount of time that could elapse between the date when the creditor indicated its intention to exercise default remedies that would make the asset unavailable for the provision of public service and the date when the creditor would, in fact, be able to exercise those remedies. Some delegations felt that a period of more than three months would limit the availability of credits, whereas other delegations, in particular those from developing countries and emerging economies, indicated that three months would not be enough to make the arrangements necessary to maintain the public service. The delegates finally agreed on a compromise according to which each Contracting State should specify the time-period in question by a declaration. Thus, the public service exemptions in relation to default remedies serves as an evidence for a compromise that took into account both the need of the financing industry and the need of the state to continuously maintain public services.

The issue of salvage interests in space assets

The provision of Art. IV, para. 3 of the Protocol, codifying the recognition of the insurers right to salvage, i.e. “that portion of property which is taken over by the insurance company after payment of a claim for the loss”?, of insurers, might, according to certain sectors of the industry, delay or jeopardize insurance placements and force additional inter-creditor arrangements between lenders and insurers. Nevertheless, other stakeholders underlined the need to recognize the salvage interest of insurers under the Protocol. In particular taking into account the ultra-hazardous nature of space activities and the losses related thereto the interests of the insurance industry should not be underestimated. The insurers industry made clear on several occasions that they will not agree to an insurance contract in relation to a space asset as long as their salvage interest is not acknowledged. At the end it was common consensus to acknowledge the interests of the insurance industry.

Criteria for identification of space assets for the purposes of registration

According to Art. 18 of the Cape Town Convention the Protocol and the regulations to be adopted by the supervisory authority shall specify the criteria for the identification of a space asset for registration purposes. The draft text of the Protocol provided for an enumerative approach in order to define a space asset, referring to criteria such as the name of the manufacturer, the serial number and the model designation of an asset. In addition, the draft text of the Protocol referred other requirements to be established by the Supervisory Authority in its regulations. As reemphasized by many delegations within the scope of the final conference in Berlin many of the identification criteria enumerated are considered meaningless by the space industry in order to

define space assets for identification purposes. Thus, the delegates agreed that according to Art. XX of the Protocol the identification criteria should be provided by the regulations to be adopted by the Supervisory Authority. Such an approach, however, also used to be subject to criticism by certain sectors of the space industry, as this may undermine the level of certainty expected by creditors. As pointed out by the representatives of the Registry of the Luxembourg Protocol such an approach does not aim to cause uncertainty, but rather aims to provide for flexibility in order to meet the industry need. The registrar of the aircraft protocol made it clear that it is common practice in relation to the identification criteria under the Aircraft Protocol that those criteria are defined by the Supervisory Authority in co-operation with the industry. Thus, it is submitted that the space industry should promote the drafting process of the regulations in a constructive manner to give the Berlin Protocol its full effect.

*Debtors’ rights and the assignment of debtor’s rights*

The Berlin Protocol maintains the approach that the assignment to the creditor of debtor’s rights is registerable. In former drafts of the Protocol debtors rights have been defined as “all rights to payment or other performance due or to become due to a debtor by any person with respect to a space asset.” Certain sectors of the industry repeatedly raised the issue of concern that according to this definition the scope of application of the concept of debtor’s rights is not entirely clear, which may result in limitations on the flexibility of satellite financing available to prospective debtors. They felt that the reference to the term “all” implies that not less than the assignment of all rights would be recognized. In the industry’s view such a definition in particular causes confusion, as not all rights with extend to a space asset would necessarily extend just to the debtor. This concern was addressed by the amendment of the definition of the term debtor’s rights in the revised preliminary draft of November 2010, which reflects the text of Art. I, para. 2 (a) as it was finally adopted at the diplomatic conference in Berlin and reads as follows: “debtor’s rights’ means rights to payment or other performance due or to become due to a debtor by any person with respect to a space asset”. This definition provides for the flexibility demanded by the industry, as it does not necessarily require the assignment of all rights.

**THE SPACE ASSETS PROTOCOL - NOT NEEDED BY ALL, BUT REQUIRED BY SOME**

The Space Asset Protocol as negotiated at the diplomatic conference was supported by a large number of quite different states, such as China, Russia, India, Japan, the Republic of Korea, Mexico and various African States. In Europe special support came from Germany, Italy, Czech Republic and Latvia. Three States (Burkina Faso, Saudi Arabia and Zimbabwe) signed the Berlin Protocol during the closing ceremony of the conference on 9 March 2012 and 25 States and one Regional Economic Integration Organization (EU) signed the Final Act. Four States supported and
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remained with the negative perception of certain sectors of the space industry10 and initiated at the end of the conference an untypical high number of necessary ratifications for the entry into force of the Berlin Protocol.11

As it is the nature of multilateral Agreements the text of the Berlin Protocol does not reflect the best text available. It is rather the outcome of negotiations for more than ten years between sovereign states representing the competing interests of the stakeholders concerned. This article does not aim to camouflage that the Berlin Protocol does not accommodate all concern of the major satellite operators. Nevertheless, it provides for evidence that those concerns left its mark in the compromise agreed on at the Diplomatic Conference in Berlin.

Moreover, this article aimed to make clear that the Berlin Protocol does not replace well established practices of asset based financing. For the major satellite operators the Berlin Protocol might not be required, due to their type of business (investment pre-financed by transponder customers). Therefore, it might be preferable for them to stick to their financing practices, which are by no means affected by the Berlin Protocol.

Assets based financing does, however, benefit developing and emerging markets and in particular assist smaller operators and start-up companies. Thus, it broadens the access to the commercial space market. It should therefore be considered as an optional instrument that is “not needed by all, but required by some”12.

10 Cf. UNIDROIT 2012, DCM-SP-Doc.6 Add.1, February 2012, Comments and Proposals by Canada and the United States of America.
11 Art. XVIII para. 1 (a) “after […] tenth instrument of ratification, acceptance, approval or accession […]” in contrast to eight for the Aircraft Protocol (Art. XVIII), four for the Railway Protocol (Art. XXIII) and three for the Convention (Art. 49). The original proposal of Canada asked for at least 20 ratifications for the entry into force of the Protocol. The highest threshold for the entry into force of an international private law instrument to date, however, is ten ratifications.
12 So characterized by the delegation of Saudi Arabia during the Diplomatic Conference.
Case Law Commentary

THE COURT OF JUSTICE OF THE EUROPEAN UNION RECOGNIZES THE COMPENSATION FOR NO-MATERIAL DAMAGES SUFFERED FOR CANCELLATION OF FLIGHT.
(Court of Justice of the European Union, 13 October 2011, judgment in Case C-83/10)
by Isabella Colucci

In its judgment, the Court of Justice of the European Union explained, firstly, its interpretation of the concept of ‘cancellation’ and, secondly, establishes a new principle on compensation for damage caused by flight cancellations.

The case regarded the claims presented by several families that were all booked on an Air France flight from Paris to Vigo (Spain). A few minutes after the flight took off as planned, the pilot decided to return to the airport of departure, Charles de Gaulle, due to a technical problem. Three passengers were offered a flight the next day from Paris Orly to Porto (Portugal), from where they travelled to Vigo by taxi. Another traveller got a seat on a flight the same day, from Paris to Vigo via Bilbao. All other passengers were offered a flight on the following day from Paris to Vigo, scheduled at the same time as the one that had broken down. Only one of the passengers received accommodation and assistance from Air France. Several passengers of the flight decided to bring a legal action against the carrier in order to obtain compensation for the cancellation, as well as no-material damages and the reimbursement of the cost suffered while waiting.

In the judgment the Court examined, firstly, the concept of the term “cancellation” defined by Article 2(1) of Regulation No 261/2004 as ‘the non-operation of a flight which was previously planned and on which at least one place was reserved’. To do this, the Court focused on the meaning of the term “flight”, which “consists, in essence, of an air transport operation, being as it were a ‘unit’ of such transport, performed by an air carrier which fixes its itinerary”, thus it clears that the “itinerary” is an essential element of the flight, as the flight is operated with the carrier’s pre-arranged planning in mind.

Therefore, the Court held that the circumstance that take-off occurred but that the aeroplane then returned to the airport of departure without having reached the destination in the itinerary, means that the flight, as initially scheduled, cannot be considered as having been operated. Through this argument, the Court set that ‘cancellation’ as meaning that is does not refer exclusively to the situation in which an aeroplane fails to take off at all. That concept also covers the case in which an aeroplane takes off but, for whatever reason, is subsequently forced to return to the airport of departure where its passengers are transferred to other flights.

Furthermore, the Court clarified the concept of ‘further compensation’, under art. 12 of Regulation
Nr 261/2004, which is intended to supplement the application of the standardised and immediate measures provided for by the Regulation. Material and non-material damage caused by the failure of a flight has to be compensated in addition to the instantaneous and basic indemnification, according to Montreal Convention or national law.

Finally, the Court explained that if a carrier fails to fulfil its obligations to assist (reimbursement of ticket or re-routing to the final destination, taking on the cost of transfer between the airport of arrival and the originally scheduled airport) and to take care of costs that fall to it pursuant to the Regulation (meal, accommodation and communication costs), the passengers have the right to claim a compensation for the damages caused by the lack of service. If the compensation comes from the Regulation, it cannot be considered as ‘further compensation’.

With this judgment the Court of Justice has extended the possibility of air passengers to obtain an additional compensation for suffered non-material damage, leaving the national courts the task to determine the compensation arising from breach of a contract of carriage by air.
CHOICE OF JURISDICTION: THE COMPULSORY NATURE OF ARTICLE 33 OF THE MONTREAL CONVENTION AND THE NEED OF A CONSISTENT APPLICATION (First Civil Chamber of French Court of Cassation, judgment of the 7th December 2011)

by Alessandra Laconi

In the 7th December 2011 judgment, the First Civil Chamber of the French Court of Cassation affirmed that the jurisdiction chosen by the plaintiff under Article 33 of the Montreal Convention must be intended as the sole jurisdiction before which a claim can be pursued. As a consequence of the aforementioned principle, the Court reiterated that Article 33 overrides all domestic rules that could apply in any particular case. Proceedings were brought by some of the victims’ families after the crash in Venezuela of an MD82 aircraft chartered by Newvac (the contractual carrier, established in Florida) and operated by West Caribbean Airways (the Colombian actual carrier) on August 2005 while flying from Panama City to Martinique. Such proceedings were commenced under Montreal Convention both against Newvac and West Caribbean Airlines before the US federal courts of Florida.

It must be preliminarily considered the text of Article 33 of the Montreal Convention, which establishes that “An action for damages must be brought, at the option of the plaintiff, in the territory of one of the States Parties, either before the court of the domicile of the carrier or of its principal place of business, or where it has a place of business through which the contract has been made or before the court at the place of destination”. “In respect of damage resulting from the death or injury of a passenger, an action may be brought before one of the courts mentioned in paragraph 1 of this Article, or in the territory of a State Party in which at the time of the accident the passenger has his or her principal and permanent residence and to or from which the carrier operates services for the carriage of passengers by air […]”.

The US Court of Appeals dismissed the claimants’ action on the grounds of forum non conveniens, declining jurisdiction in favour of the Fort-de-France (Martinique) First Civil Court. Conservatory proceedings were commenced by 669 claimants in August 2007 before the Fort-de-France First Civil Court, in abeyance while awaiting a ruling from the US Court.

In January 2009 all the plaintiffs commenced proceedings against the contractual carrier before the Martiniquais Court asking for 1) a declaration that the Court lacked jurisdiction, 2) an order that the matter be referred to the Courts of Florida, where the appeal was pending, 3) adequate compensation for damages. Nevertheless, the Fort-de-France First Civil Court refused to decline jurisdiction and a transfer of the matter to the US court. The claimants appealed the first judgment asserting that proceedings were pending before several jurisdictions and that the proceedings pending before the US Court were seized by the families of crewmembers. The Fort-de-France Court of Appeal confirmed the first judgment, thus the claimants appealed to the Court of Cassation. In particular, the claimants pointed out that no other jurisdiction could be imposed on them as they chose to act before the US Court according to Article 33 of the Montreal Convention, and
that its imperative and compulsory nature could not be overridden by any domestic rule. The last instance Court annulled the appeal judgment arguing that Article 33 entitled the claimants to choose the jurisdiction for their claim, because of the overriding nature of the option ensured to the plaintiffs.

The peculiarity of the analyzed sentence can be found in the affirmation that no further appeal was neither necessary nor appropriate, because French jurisdiction was not available to the parties, having the plaintiffs chosen to pursue the action before the US Court.

The plaintiffs now wish that the US Courts would pronounce in accordance with the Court of Cassation, ultimately ruling that considerations concerning the degree of convenience of a forum cannot override the option allowed to the claimants set forth by Article 33 of the Montreal Convention. It can thus be affirmed that this judicial case shows the practical difficulties linked to the lack of consistent application of the provisions of the Montreal Convention in all the involved jurisdictions. The right of the plaintiff consisting in the free selection of the jurisdiction represents a first protection recognized at an international level, which should not be overridden by any domestic rule.

In the field of the choice of jurisdiction, Article 33 of the Montreal Convention must be intended as a compulsory and binding rule and a lack of consistent application could represent a detriment in relation to the rights accorded to the plaintiff by the Convention, so that a convergence of domestic rules has to be wished.
Miscellaneous Material of interest

ENAC REGULATION OF 21ST DECEMBER 2011 “Health organization and medical certificate requested to obtain the flight crew license”
by Silvia Ceccarelli

ENAC Regulation “Health organization and medical certificate requested to obtain the flight crew license” took effect on the 22nd February 2012 and it disciplines the medical organization and medical procedure of examination to certificate psychophysics requirements of the aircrew and of the air traffic controllers in Italy.

The adoption of such Regulation derives from the necessity to conform the aeromedical national sector to the European rules also defining the comparable procedure to manage the requirements of medical ordinary and extraordinary examinations.

The text of ENAC Regulation, which also includes the provisions of the Joint Aviation Requirements for Flight Crew Licensing (JAR_FCL3, amendment 5) and relatives procedure, has been adopted in view of the implementation of all that is provided by the European Regulation 1178/2011/EC on the requirements and administrative procedures to civil aviation aircrew that will take effect on 8th April 2012.

ENAC Regulation defines the common procedures for medical examinations and the requirements for Aeromedical Centres (AeMC) and Medical Examiners (AME) to obtain ENAC authorization and to ascertain and certify the possession of the psychophysical requirements.

The medical certificates must be issued only by authorized Aeromedical Centres (AeMC) or by Medical Examiners (AME) authorized by ENAC. Pilot certifications must be issued according to the medical procedures provided by JAR-FCL3 amendments 5, while Air traffic controllers certifications must be issued according to the medical requirements and procedure provided by the “Eurocontrol Requirements for European Class Medical Certification of Air Traffic Controllers”.

Finally, ENAC Regulation defines that the authentic medical document must be filed at Aeromedical Centres or at medical examiners seat where the medical tests took place.

Currently the recognized Aeromedical Centre (AeMC) where it is possible to request or review the medical certificates are the Medical Legal Institute of Military Aviation and the Maritime, Aviation and border health offices (SASN) of Ministry of Health.

The authorization to ascertain and certify psychophysical requirements released by ENAC has a three years validity both for Aeromedical Centre (AeMC) and the Medical Examiners (AME). During this period the authorized Aeromedical Centres (AeMC) and the Medical Examiners (AME) are verified by ENAC to ascertain the requirements of reliability and competence.
THE ITALIAN IMPLEMENTATION OF AIRPORT CHARGES DIRECTIVE: DECREE LAW NO. 1 OF 24TH JANUARY 2012

by Alessandra Laconi

The recent Decree Law 1/2012 adopted by the Italian government intends to fully implement the EU Directive 2009/12/EC concerning airport charges, settling the infringement proceedings Nr 2011/0608 opened by the Commission. Airport charges consist of amounts due for the use of airport facilities. They include charges for the processing of passengers and goods data, landing and take-off charges and other charges deriving from the use of airport infrastructures.

The European Directive adopted on March 2009, which had to be implemented by all Member States by March 2011 at the latest, represents an adaptation rather than a complementation to the policies on airport and air navigation services charges drawn up by the International Civil Aviation Organization. The main principles of the Directive, which applies to all EU airports handling more than five million passengers per year and to the largest airport in each Member State, are the following:

- Greater transparency on costs which charges are to cover: this means that airports shall be obliged to share a detailed breakdown of costs with airlines in order to coherently justify the amount of airport charges;

- Non-discrimination: airlines receiving the same service shall pay the same charge. However, airports can differentiate their services if the criteria are clear and transparent, and they can vary charges on environmental grounds;

- Systems of consultation on charges between airports and airlines, already in place at many EU airports, become mandatory at all airports covered by the Directive;

- Member States must designate and set up an independent supervisory authority that can effectively help to settle disputes over charges between airports and airlines.

Austria, Germany, Italy and Luxembourg have anyway failed to notify the Commission of the necessary national laws they have put in place for this Directive, although they were required to do so since 15th March 2011.

The aforementioned Decree Law provides for a transparent charging system, foreseeing the creation of an independent authority (Autorità Nazionale di Regolazione e Vigilanza dei Trasporti) for which the Government will present a draft law within three months, before the conversion of the Decree. In order to guarantee the recovery of the costs for the creation and for the functioning of the Authority, the Decree establishes the introduction of dedicated charges that will be sustained by airport users and by managing bodies. The functions of regulation and supervision in the field of transport are transitorily attributed to ENAC (Italian Civil Aviation Authority), providing also
the institution of a specific Airport Charges Direction so that ENAC can be able to carry out the mentioned tasks.

The Authority (or ENAC) will establish charges according to efficiency goals looking towards technical and qualitative development of the airport, prior opinion of the Ministry for Transport and Ministry for Economics. The Authority will hold the power of authorizing airport managing bodies to introduce a common and transparent charging system to be applied to the entire airport net or to airports serving the same city or urban agglomeration.

The application of airport charges will be put into place avoiding any kind of discrimination among airport users, unless in case of reasons of public or general interest. That is why the Decree recognizes to the Authority the power to ratify the specific charges model approved by the airport managing body.

The goal of the Italian Government consists in encouraging the achieving of adequate quality level of services, recognizing to airports users and to managing bodies the possibility of concluding an agreement on the quality level of services in relation to the airport charges.

The airport managing body can be authorized by the Authority to adjust the supply of services and the related airport charges provided that principles of transparency and non-discrimination are fulfilled.

The Decree provides for specific procedures of consultation on charges between airport managing bodies and users, and the possibility for the Authority to require consultations among airport operators. In order to promote a greater level of transparency, the Authority can indeed establish information duties among the managing body and users. The Decree coherently recognizes to the Authority a specific power of control, which can be exercised adopting orders of suspension of the charging system in case of infringement of the principles concerning the determination of airport charges, prior adequate information to the airport managing bodies.

If such breaches persist the Authority could adopt the necessary measures for the definition of airport charges.
A BETTER AIR SAFETY MANAGEMENT SYSTEM IN EUROPE: THE COMMISSION’S ACTION AND THE EASA’S ROLE
by Adeliana Carpineta

The European Commission has recently published a Communication (COM (2011) 670) on how to achieve a better system of aviation safety management for Europe. The clear aim is that the European Union should be the safest region for aviation.

In fact, whilst the aviation accident rate continues to decline, the “Annual Safety Review” - compiled annually by EASA to inform the public of the general safety level in the field of civil aviation - shows how the rate of decline has slowed markedly since 2004.

This Communication therefore sets out some specific actions addressed to aviation safety management that seeks to preserve the current low level of fatalities resulting from air accidents.

The European Commission therefore intends to meet this challenge in support of the aim - agreed at the International Civil Aviation Organisation’s (ICAO) High Level Safety Conference held in Montreal in 2010 - of moving towards a pro-active management of aviation safety and evidence based.

In this Communication the European Commission sets out the parameters of a European aviation safety management system, highlighting the obstacles to be overcome to ensure it is effective.

For the success of this pro-active system are primarily necessary the assistance and contributions of all the players to act involved: the Commission, EASA, the Member States, Eurocontrol and industrial partners, in a collaborative approach, for the successful of all the activities associated with the functioning of this system.

A spirit of cooperation between different actors, notes the Commission, is certainly vital obtaining information to identify the safety hazards to aviation.

A variety of information sources are currently available:

- accidents reports;
- ramp inspection reports from the Safety of Foreign Aircraft Programme (SAFA);
- the investigation and follow-up of incidents;
- data from occurrence reports integrated into the European Central Repository (ECR);
- oversight audits including EASA Standardisation Inspections.

However, despite there are all these sources of information, it must detect a number of shortcomings with limit its usefulness.

In particular, in order to the occurrence reporting system for accident prevention purposes, the Commission finds that there are low quality of information, incomplete data, insufficient clarity in reporting obligations and in the flow of information.

1 “Setting up an Aviation Safety Management System for Europe”, Brussels, 25.10.2011
2 European Aviation Safety Agency (EASA), established in 2004, houses the technical aviation safety expertise at EU level.
For this reason the Commission will bring forward proposals in 2012 to update the EU system on occurrence reporting by reviewing Directive 2003/42/EC.3

The Commission therefore finds that EASA - which houses the technical aviation safety expertise at EU level - is the only organisation at the heart of the EU that is dedicated exclusively to air safety and can therefore bring together the various strands of work which will contribute to success, including full discussions with Member States on actions to be taken.

Given the technical nature of the issues, continues the Commission, it should be for EASA to set down its view to the Commission on the best course of action to mitigate the risks. This view should be set out as a plan of action, known as the European Aviation Safety Plan (EASP)4, drawing on inputs from all stakeholders.

This Safety Plan will need to be regularly updated to keep EU citizens appraised of the progress being made in addressing the specific safety issues.

The Commission therefore believes the European Union can become the leading aviation safety region in the world to the benefit of all EU citizens by improving the quality of safety information, by sharing the information and the results of analysis and by taking the agreed actions.

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4 EASA has already published an initial version of such a plan upon Member States plans and priorities that was published in early 2011
THE COMMISSION REQUESTS POLAND AND GREECE TO COMPLY FULLY WITH RULES ON AIRPORT CHARGES (Directive 2009/12/EC)

On 22 March 2012, the European Commission has requested Poland and Greece to implement EU rules concerning the airport charges Directive, adopted in March 2009, which requires Member States to put in place laws to ensure that airport charges levied on airlines at the main European airports are calculated in accordance with the principles of transparency, consultation and non-discrimination as set out in policies agreed by the International Civil Aviation Organization (ICAO).

Even though the deadline to implement the Directive was set at 15 March 2011, to this date Poland and Greece have only partly implemented it. The effect of this partly implementation could mean that passengers are paying more than they should for air travel, both within the EU and for long-haul destinations departing from EU airports.

Considered that the request takes the form of a reasoned opinion under EU infringement procedures, the Commission could refer the case to the Court of Justice of the European Union, if within two months these Member States fail to inform of measures taken to ensure full compliance with EU law.

A.C.
ON THE LACK OF REPLIES TO RYANAIR’S COMPLAINTS: THE EUROPEAN COMMISSION CHALLENGES THE JUDGMENT OF THE GENERAL COURT T-442/07 (CASE C-615/11 P)

On the Official Journal of European Union was recently published the text (Case C-615/11 P)\(^1\) of the appeal brought by the European Commission on 29 November 2011, against the judgement dated 29 September 2011, in Case T-442/07.

The General Court had ruled on the action brought by Ryanair against the European Commission for not have responded to numerous complaints from low-cost airline between 2005 and 2006.

These complaints concerned some measures favourable, granted to Alitalia by the Italian Government; in particular:
- the transfer of 100 Alitalia employees to Air One and Meridiana;
- the payment of a compensation fund set up following the attacks of 11 September 2001;
- the reductions of airport charges at airports “pivot”.

The General Court concluded upholding the action of Ryanair and arguing that the European Commission had infringed Community law by failing to adopt a decision on the articulated reports submitted by Ryanair.

In fact, on the State aids, any interested party can inform the Commission of any alleged illegal aid and any alleged misuse of aid, and the Commission must act, in accordance with the Regulation (EC) no. 659/1999\(^2\) on rules of competition.

Therefore, in this specific case, the Commission had not informed Ryanair that there was not sufficient reason to act, nor had taken decisions on the subject, being in a state of deficiency on 2 October 2007 (the expiration of two months following to the invitation to act by the airline).

By the appeal, the Commission requests to set aside the judgment of the General Court for a wrong interpretation the abovementioned Regulation and, in particular, of the articles 10 (paragraphs 1 and 20) and 20 (paragraph 2).

The Court of Justice, therefore, will take a decision on the merits of the appeal submitted by the Commission, confirming or not the judgment of the General Court.

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