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Andreas Knorr*

Do "Blacklists" Enhance Aviation Safety?

For some time now, discussions have been under way in the EU on the possible publication of an official "blacklist" of unsafe airlines or countries where accident rates are above average. How effective is this instrument? What are the conceivable alternatives?

Especially in Germany but also in the other member states of the European Union, the loss of all 176 passengers (most of them German holiday-makers) and 13 crew when a Boeing 757 operated by the Turkish charter airline *Birgenair* crashed off the Dominican Republic on 6th February 1996 triggered off an intense, though not always objective, discussion on the safety standards of airlines from third countries. Since that accident, one of the main calls voiced by people in the media and by politicians has been for the establishment of an official "blacklist" of airlines and/or third countries which the aviation regulatory authorities in the EU member states consider to be relatively unsafe.¹ The advocates of a "blacklist" maintain that it would provide reliable, neutral decision-making assistance, which would have other advantages besides the marked improvement in market transparency for particularly safety-conscious passengers. The very existence of a "blacklist", the argument continues, would spur both airlines and governments to take whatever steps were necessary both to avoid being publicly branded as unsafe and to fend off the inevitable adverse economic impact of falling bookings or a drop in foreign-exchange earnings from tourism. However, it will be shown in some detail below – particularly with reference to the very instructive example of experience in the USA, where the Federal Aviation Administration has been regularly compiling a "blacklist" since 1992 and actually publishing the list since 1994 – that the idea of taking this route to attain a lasting improvement in aviation safety is not just objectively counter-productive. Beyond that, there are also a number of objections on economic principle to this approach, and market-conforming alternatives to it are also available.

The Chicago Convention and the ICAO

In 1944, the representatives of 52 nations met with the aim of establishing a universally valid international

set of regulations to govern world aviation once World War II was over. The result of these deliberations was the International Civil Aviation Convention (known as the Chicago Convention), which came into force on 4th April 1947. Not all of the conference's aims were attained, however. In particular, due to fierce resistance from European countries led by the United Kingdom, the USA did not succeed in pushing through its main point of concern, namely the establishment of a multilateral, liberalized system of granting traffic rights, along the lines of the Freedom of the Seas.² As a result, the procedures for granting traffic rights for cross-border scheduled services are still largely governed by the highly protectionist principle of bilateralism even to this day: there are approximately 1,800 bilateral air traffic agreements currently in force around the world. The practical impact of these is that they usually regulate in great detail which airlines are allowed to fly to which destinations in the two contracting countries or onwards to third countries, with what frequencies, using what aircraft types, charging what fares, and providing what types of transport facility; they also determine how the provisions of the agreement should be monitored by the two contracting parties. On top of that, it is still the case in almost all countries around the world that only airlines based in the country are entitled to offer domestic airline services.³

To ensure that air traffic is conducted as safely as possible, the signatory nations to the Chicago Convention also agreed to introduce minimum standards in all areas touching upon aviation safety; the majority of these standards are laid down in the appendices to the Chicago Convention. The task of

¹ On the state of this debate, see, e.g.: Von schwarzen Listen wird abgeraten, in: Handelsblatt, No. 112, 13th June 1996, p. 11; A. Spaeth: Landeverbot für Schrott-Airlines?, in: Die Zeit, No. 11, 8th March 1996, p. 73.

² For a comprehensive treatment, see R. de Murias: The Economic Regulation of International Air Transport, Jefferson & London 1989, pp. 44 ff.

³ This "cabotage" arrangement will be prohibited within the EU with effect from 1st April 1997.

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setting down the minimum standards and continually updating them was accorded to the International Civil Aviation Organization (ICAO), likewise set up at the Chicago meeting;⁴ the ICAO also became one of the United Nations' specialized technical agencies in October 1947. The 184 countries (as of December 1995) belonging to the ICAO are not only obliged by their membership to conform to the organization's minimum standards.⁵ They are also required to recognize the validity of airline operating and pilots' licences issued by other ICAO member countries. Thus the very existence of these documents is accepted as proof that the member country issuing the document is making all necessary efforts to ensure that any airlines based in that country and operating internationally are conforming to the ICAO minimum standards. That in turn, however, means that in principle the aviation regulatory authority in any ICAO member country must grant permission to any airline from another member country which is able to produce the appropriate documents to fly into its airspace and territory (but of course, before it can commence commercial scheduled services a foreign airline must first be in possession of traffic rights between the two countries). Any individual ICAO member country is nevertheless entitled to lay down stricter safety regulations for all airlines resident within its territory. Because it lacks an appropriate mandate and does not have sufficient staff and financial resources, the ICAO itself has not so far been in a position to establish whether or to what extent its member states are really performing their supervisory duties.

The USA's Safety Assessment Program

On 25th January 1990, a Boeing 707 operated by the Colombian airline *Avianca* crashed on approach to New York due to fuel starvation. Before being cleared for landing, the plane had spent two hours in a "holding stack" because of bad weather conditions at Kennedy Airport. In the view of the American accident

enquiry committee, the crash in which all 73 people on board the aircraft were killed could readily have been avoided if the flight crew had managed to warn their air traffic controller in good time of the situation they were in, if necessary declaring an official emergency, which would have obliged the controller to grant landing permission immediately. In the immediate aftermath of this accident, which was undisputedly due to an inexcusable pilot error, the American media began to cast serious doubt on the safety standards of foreign airlines. Then, once an expert hearing staged by a Congressional Committee had concluded in June 1991 that numerous developing countries were either unwilling or unable, due to a lack of expertise and/or financial resources, to ensure that the ICAO's minimum standards were enforced, the Federal Aviation Administration (FAA), which is the paramount civil aviation authority in the USA, responded by introducing its "Foreign Aviation Safety Assessment Program". The first consequence of this was that, from 1992 onwards, the FAA broke with previous practice among ICAO member countries and ceased to automatically recognize the airline operating and pilots' licences issued by foreign aviation regulatory authorities. Instead, FAA teams of experts now perform a regular cycle of checks to ascertain whether the authorities in the approximately one hundred countries whose airlines offer flights into and out of the USA, or have applied for traffic rights to do so, really are in a position to meet their supervisory obligations as ICAO members, and to ensure that these international minimum standards are adhered to. All of the countries concerned were due to have been scrutinized by the expert teams by the end of 1996. Authorities in some countries though, including Colombia, have already been checked over twice by the FAA. The continuation of the programme beyond 1996, in regular inspection cycles, has been officially confirmed and decided.

The Procedure and its Economic Consequences

In practice, the first step taken by the FAA is to ascertain whether the country concerned has a law requiring the establishment of a national aviation regulatory authority, whether that authority is legally entitled to lay down safety requirements and to ensure that they are enforced, and whether the safety regulations in force materially conform to the ICAO's minimum standards. Then the FAA goes on to evaluate the effectiveness of its foreign counterpart in terms of its personnel and organization and its ability to perform its supervisory functions in practice; it makes the evaluation using its own set of criteria

⁴ In addition to its main focus on aviation safety, the ICAO is also charged with ensuring that the rights of individual signatory states are respected, and that each of the signatory states has the opportunity to operate an international airline. Another of the organization's declared purposes is to promote the construction and peaceful use of new aircraft, the development of official airways, of airports and other facilities for international civil aviation, and finally to help prevent economic waste due to "unreasonable" competition among different airlines.

⁵ This duty is qualified by the phrase "to the highest practical degree" which the member country believes is possible. If a country finds that it is not in a position to conform to certain ICAO minimum standards, it is of course obliged to inform the ICAO forthwith. Cf. M. Milde: Enforcement of Aviation Safety Standards, in: *Zeitschrift für Luft- und Weltraumrecht*, Vol. 45 (1996), pp. 5-6.

which have not so far been disclosed to any other parties. The FAA divulges the findings of its examination to the foreign authority concerned once the study is complete, and the US embassy in the country is also informed.

Based on the official examination report, the foreign aviation supervisory authority is finally placed into one of four assessment categories.⁶ If a country is placed in Category I ("acceptable"), that means the FAA has come to the view that its national civil aviation authority is fulfilling all of the tasks required of it by the ICAO satisfactorily on all counts. Of the countries evaluated by the time of writing, this category included Argentina, Aruba, Australia, the Bahamas, Bangladesh, Brazil, Brunei, Bulgaria, Chile, Costa Rica, the Czech Republic, El Salvador, Fiji, Ghana, Hong Kong, Hungary, Israel, Jordan, Malaysia, Mexico, Nauru, the Netherlands Antilles, New Zealand, Oman, Panama, Poland, Romania, South Africa, Turkey, Ukraine, Uzbekistan, the Federal Republic of Yugoslavia (Serbia and Montenegro) and Western Samoa. In distinction to this top category, Category Ia means that, in the FAA's opinion, a country's regulatory authority only maintains or enforces the ICAO minimum standards with regard to flights to and from the USA, but is unable to guarantee this for flights to and from third countries. The countries already placed into this category are Guyana and the Marshall Islands. The reason why it is economically advantageous for a country to be placed in Categories I or Ia is that only airlines resident in those countries are actually allowed to fully exercise the traffic rights which their governments have obtained in their bilateral air traffic agreements with the United States, and also because the US administration only intends to conclude any new bilateral agreements with countries in the top two categories.

The next category down (Category II – "conditional") means that the national regulatory authority is considered by the FAA to fulfil most but not all of the ICAO's requirements. In most cases, it should be said, the FAA allows a 120-day period of grace to have the deficiencies made good. The countries currently in Category II are Bolivia, Colombia, Ecuador, Guatemala, Ivory Coast, Jamaica, Morocco, the members of the Organization of Eastern Caribbean States (Anguilla, Antigua and Barbuda, Dominica, Montserrat, St. Lucia, St. Vincent and the Grenadines, and St. Kitts and Nevis), Peru, the Philippines, Thailand, Trinidad and Tobago, and Venezuela. The consequences of this classification for airlines from the countries concerned vary from case to case: airlines

already serving routes into and out of the USA are subjected to tougher FAA monitoring by way of "ramp checks". Meanwhile, until the home country's regulatory authority has reached agreement with the FAA on a plan to eliminate the deficiencies identified, these airlines are prohibited from stepping up their services to utilize any traffic rights they had not yet taken up – i.e. they are not allowed fully to exhaust the possibilities theoretically available to them. Other airlines from the countries concerned which were not already flying into and out of the USA are prohibited from entering US airspace until such time as the regulatory deficiencies have been dealt with. That means that these airlines are prevented by the FAA until further notice from actually exercising the traffic rights which should be available to them under the terms of their home country's bilateral air traffic agreement with the USA.

Finally, in countries placed in Category III, FAA experts found that ICAO regulations were being breached so seriously that the airlines from those countries already in possession of landing rights at US airports had those rights withdrawn, and that applications for landing rights were refused out of hand in all cases. Nevertheless, if they still wish to provide a US service the airlines involved are at liberty to "wet lease" aircraft from operators in Category I countries – i.e. to lease the aircraft complete with flight and cabin crew licensed in the lessor's country.⁷ The thirteen countries currently classified in Category III are Belize, the Dominican Republic, Gambia, Haiti, Honduras, Kiribati, Nicaragua, Paraguay, Surinam, Swaziland, Uruguay, Zaire and Zimbabwe. It should be noted that the national airlines of Haiti and Surinam were the only two operators actually operating services to the USA ahead of the FAA's examination reports.

Critical Reception

In its own words, the FAA regards its Foreign Aviation Safety Assessment Program as a key component of its efforts "to provide the public with more information about aviation safety in international travel".⁸ However, the claim that the underlying

⁶ See the summary provided by B. Crotty: U.S. FAA Assesses Non-U.S. Civil Aviation Authority Safety Oversight Capability, in: *Aviation Mechanics Bulletin*, Vol. 44, No. 2 (March/April 1996), p. 5, plus a number of subsequent FAA press releases.

Under the more usual "dry lease" arrangement, only the aircraft itself is provided.

⁸ FAA: FAA Announces Assessments of Foreign Compliance With International Safety Standards, press release, Washington D.C., 21st July 1996, p. 1.

purpose is simply to eliminate asymmetry of information in the marketplace to the benefit of potential air travellers is rather contradicted by the fact that the FAA did not make its "blacklist" available to the general public until 1994, two years after the programme commenced, and then only because of the pressure exerted by the American media which criticized the agency heavily for its "secret diplomacy".⁹ But it is contradicted still more by the fact that the FAA programme does not stop at simply enhancing market transparency as regards aviation safety: on the contrary, when it comes to airline traffic between the USA and countries in Categories II and III, the programme directly intervenes in what are usually already highly regulated markets due to the stipulations of bilateral air traffic agreements. In other words, by drawing up its "blacklist" the FAA is establishing quite substantial market entry barriers for all airlines domiciled in Category-II and especially in Category-III countries. Moreover, it does this even though the Foreign Aviation Safety Assessment Program does not actually directly examine the individual safety standards of the airlines involved, as the FAA itself expressly states: "The assessments are not an indication of whether an individual foreign carrier is safe or unsafe, rather they determine whether or not a country has a civil aviation authority in place and the extent to which that authority ensures that operational and safety procedures are maintained by its air carriers".¹⁰

Advocates of the Foreign Aviation Safety Assessment Program and of "blacklists" in general together with the economic restrictions they imply argue that any government-initiated restraints on competition and on the international trade in services which may be involved in such schemes are a price that has to be paid in a bid to avert damage to airline travellers and innocent third parties, who in past experience have also very frequently been caught up in aviation accidents. In the event of a conflict of objectives, the argument continues, any measure which is liable to increase air safety should fundamentally be given priority over the commercial interests of specific airlines, or of the airline industry in general. However, this line of argument would only be objectively convincing if the real interrelationships between aviation safety, competition and the "blacklist" instrument were to adequately conform to the following four hypotheses, which would also have to hold simultaneously!

☐ Hypothesis 1: that an air carrier exercises sole responsibility for the safe completion of its flights; that

only the behaviour of its own employees, and that no exogenous factors (i.e. factors beyond its control or its complete control) will thus influence the accident risk to which its passengers are exposed.

☐ Hypothesis 2: that a maximum degree of airline safety and free competition can empirically be clearly proven to militate against one another.

☐ Hypothesis 3: that an effective governmental aviation regulatory authority – i.e. one which acts exclusively in the public interest – is the only body which would sustainably be capable of resolving this purported conflict of objectives.

☐ Hypothesis 4: that the objective of enhancing aviation safety can be much more efficiently achieved by the "blacklist" instrument than by applying other alternatives which are less disquieting from the point of view of overall economic fairness.

In fact, none of these hypotheses stands up to critical scrutiny in the real world.

Causes and Risks of Aviation Accidents

In 1995, in a total of 57 fatal accidents involving commercial civil aircraft, 1,215 passengers, crew and innocent third parties lost their lives; 1995 had in fact proved relatively unsafe when set against the 1990-95 annual average of 1,084 lives lost in an average of just 44 fatal accidents.¹¹ As a proportion of the approximately 1.3 billion passengers conveyed by commercial carriers in the ICAO member states, the risk of death is infinitesimally small, especially in comparison to road travel. This straightforward statistical comparison also brings out two other facts. Firstly, the safety standards applied by individual airlines differ far less in practice than is implied by the rankings of "safe" and "less safe" airlines which often appear in the press in the aftermath of an accident; even those who choose to fly with the airlines ranked as the least safe in such listings will be far safer than they would be travelling by car. Secondly, whenever an accident does occur – and partly because the occurrence is so rare – the accident statistics of the airline concerned will deteriorate sharply and substantially relative to those of other airlines. Inevitably, therefore, any smaller airlines or newcomers to the industry which have not accumulated as many passenger-miles as

⁹ To take one example of many: G. Stoller: The FAA's secret list, in: *Condé Nast Traveler*, October 1993, pp. 31 ff.

¹⁰ FAA, op. cit., p. 1.

¹¹ Cf. D. Learmount: Off target, in: *Flight International*, 17th-23rd January 1996, p. 24.

their larger rivals will be listed for a relatively long period as considerably less safe than the average.

Moreover, as research into the causes of accidents has shown, exogenous factors also play a decisive role in the accident risk associated with any particular carrier. This conclusion only superficially appears to be contradicted by the subsequent identification of pilot error as the main cause of jet airliner accidents during the last decade, in almost 60% of the total, followed by the failure of major aircraft systems (engines or avionics) or damage to the shell of the aircraft in a further 12.3%, and defective maintenance in 4.8% of the total. Correcting these faults is the clear responsibility of the airlines and manufacturers (though the licensing authorities also play a role in the not infrequent event of design failures which have not been identified).¹² Yet one must not overlook the fact that very few accidents can be attributed to one single cause. In particular, accidents due to so-called pilot error do not usually result from one single, serious error by the cockpit crew, but are more likely to result from a tragic chain of minor errors and consequential errors which, to make matters worse, have often been reinforced or even triggered off by an adverse operational environment. In 1995, for example, adverse weather conditions were a "contributing factor" in no less than 30% of the accidents documented in this operating class.¹³ If one then goes on to reflect that well over 90% of all aviation accidents occur during the relatively short take-off and approach-and-landing phases,¹⁴ it will also be clear just how great a part is played by the other "main contributing factors" such as the navigation ground systems available at airports (e.g. approach-and-landing aids), the reliability of such systems and the overall quality of air traffic control. A study recently published by the Netherlands Directorate-General of Civil Aviation demonstrates beyond doubt that the likelihood of an accident during approach and landing is considerably higher on average in Latin America, Africa and Eastern Europe than it is in North America or Western Europe, regardless of which airline one flies; in the Latin American countries which have mainly been placed in Category II or even III by the FAA, the likelihood is seven (!) times greater than in the USA, Canada or Mexico.¹⁵

Finally, another factor which must not be ignored is that there is no industry around the world so powerfully threatened by terrorist attacks as the airline industry. Yet the airlines' influence over the quality of ground security controls, whether of passengers, crew, maintenance staff, caterers, cleaning and other ground personnel who have access to airport zones that are sensitive from the security point of view, or of baggage and air freight, is usually extremely small since these security tasks lie within the sovereignty of the nation concerned.

Does Competition Increase Accident Risk?

The assumption ultimately implicit in the FAA's Foreign Aviation Safety Assessment Program is that, particularly under competitive conditions, airlines do not have a strong economic interest in maintaining a maximum degree of flight safety, because of the high capital costs this invariably entails: on average, between 15% and 20% of an airline's operating costs occur in the maintenance field which potential passengers are unable to "inspect" for themselves.¹⁶ Looked at the other way round, the FAA assumes that it is possible to prevent sub-optimal investment practices in safety-sensitive areas such as training and maintenance, which it claims are inherent in a competitive airline market, and hence the increased accident risk facing passengers, if a governmental aviation regulatory agency prescribes appropriate legal minimum standards and continually monitors air carriers.

However, this argument is clearly qualified by the fact – which will also be familiar to people outside aviation circles – that numerous airlines and aircraft manufacturers voluntarily subject themselves to stricter standards than those legally applying in their home countries, in spite of the additional costs involved. From the airlines' point of view, therefore, investment in flight safety is not simply a cost factor, but above all is also one of the most important parameters in a company's competitive stance alongside other quality criteria such as the frequency of its services and the density of its route network. In other words, any airline which does not have a monopoly in

¹² Cf. Boeing Commercial Airplane Group: Statistical Summary of Commercial Jet Aircraft Accidents: Worldwide Operations 1959-1995, Seattle 1996, p. 14.

¹³ Cf. D. Learmount, *op. cit.*, p. 24.

¹⁴ Cf. Boeing, *op. cit.*, p. 13.

¹⁵ Cf. Netherlands Directorate-General of Civil Aviation: Airport Safety: A Study of Accidents and Available Approach-and-Landing Aids, in: *Flight Safety Digest*, Vol. 15, No. 3 (March 1996), pp. 83 ff. Incidentally, this is the most critical reason for the higher accident risk assigned to airlines based in such countries, since their flight operations are inevitably far more heavily affected by these circumstances than those of airlines from the industrial nations.

¹⁶ Cf. P. Condom: Is outsourcing the winning solution?, in: *Interavia*, Vol. 49, No. 578 (May 1994), p. 34.

its own market or does not effectively have a minimum market share guaranteed by its government – which, regrettably, is still par for the course for cross-border airline traffic, by virtue of the capacity clauses written into most bilateral air traffic agreements¹⁷ – will have to endeavour, for the sake of its competitive position, at least to achieve and preferably to exceed the safety standards of its keenest rivals.¹⁸

However, as has been shown by trends in bookings following fatal accidents, or other series of incidents with extensive press coverage, the established airlines which are well-known brands in the marketing world enjoy a not insubstantial confidence bonus among the media and the general public, giving them a quite considerable competitive advantage over newcomers and less well-known carriers, which might be expanding foreign operators or regional airlines. The *Birgenair* case is a good illustration: this airline has since had to cease operations, and its remaining two aircraft were leased out elsewhere. Another is the case of *Air Florida* in the USA, which went into bankruptcy just a matter of months after one of its Boeing 737s crashed at Washington, D.C. in January 1982, due to a persisting decline in bookings.¹⁹ By way of contrast, among the major carriers neither *USAir*, after five fatal accidents between 1989 and 1994, nor *American Airlines*, one of whose DC-10 aircraft crashed near Chicago in May 1979 following a serious maintenance fault, and which lost a Boeing 757 at Cali, Colombia due to a gross navigational error and numerous other breaches of the rules by its two FAA-licensed flight crew, subsequently suffered falls in passenger demand, nor were their share prices adversely affected. As shown by the marked difference in the FAA's response to the crash of the *American Airlines* 757 just mentioned on the one hand – a brief examination was made of the company's internal pilot-training procedures, and no criticisms voiced as a result – and the *Avianca* Boeing 707 accident on the approach to New York in 1990 on the other – which had been the initiating spark for the Foreign Aviation Safety Assessment Program – there is a good deal of evidence to suggest that established

(domestically domiciled) carriers also enjoy a similar confidence bonus with the (domestic) aviation regulatory authorities relative to their foreign competitors. The immediate conclusion from this is that not only unknown foreign airlines – whose safety standards are often felt by the media and the general public to be worse than those of domestic carriers, even though there is often no objective justification for this view²⁰ – but also domestically-based newcomers and budget-price operators, whose reliability is often cast in similar (and similarly unjustified) doubt,²¹ will have a particularly large economic incentive, for the sake of securing their long-term existence and maximizing profit, to aim for as high a safety standard as possible.

Finally, the argument that more competition in commercial aviation diminishes aviation safety can be empirically refuted by examining US domestic traffic, which has been completely deregulated since the end of 1978. According to all of the commonly used indicators, the statistical accident risk associated with US carriers, which was already low at the outset, has continued to fall even since the abolition of all regulatory barriers to market entry, capacity changes and pricing policies, though the incremental falls are admittedly growing ever smaller. Likewise, if trends in US commercial aviation safety before and after deregulation are set against the long-term trend in the “rest of the world” which on the whole has a less liberal regime, the US “lead” on safety does not appear to have narrowed.²² In other words, the deregulation of US domestic airline traffic eighteen years ago has not had any measurable adverse impact on the safety standards of American air carriers. Another illustration of this argument is provided by the high safety standards in the European charter airline business, quite the equal of those applied by scheduled airlines which, until recently, were economically much more strictly regulated in this part of the world.

¹⁷ Seating capacity is often divided on a fifty-fifty basis between the airlines in each of the two countries.

¹⁸ This consideration also applies to inter-modal competition with alternative forms of transport.

¹⁹ The airline primarily served the trunk routes between Florida resorts and the large cities in the north-eastern USA, which meant it was competing with almost all of the major and a number of minor US carriers.

²⁰ According to a survey conducted by the German business periodical *Capital*, executive travellers in Germany are under the erroneous impression that Lufthansa, which has had a number of accidents over the years, is a safer airline than Singapore Airlines and Qantas, neither of which has ever had a fatal accident. Cf. A. Hohenester and H. Podlich: Die beliebtesten Airlines, in: *Capital*, June 1996, pp. 260 ff.

²¹ This tendency has again intensified in the USA following the May 1996 ValuJet crash. Yet the country's two largest cut-price carriers – America West and Southwest Airlines – have by far the lowest accident record per 100,000 flights of any US airline. In terms of passengers carried, Southwest has now grown to be the 5th largest airline in the USA; its fleet of 230 Boeing 737 jets now carries approx. 45 million passengers each year, i.e. considerably more than the entire Lufthansa group (Lufthansa, Condor, Lufthansa CityLine).

²² Cf. Boeing, op. cit., p. 10.

Effective Government Aviation Supervision?

As mentioned above, since the Foreign Aviation Safety Assessment Program came into force the USA has refused landing permission to all airlines domiciled in countries which the FAA has found to have inadequately effective national aviation supervisory authorities, when it comes to enforcing the minimum standards and other rules of the ICAO (i.e. in Category-III countries). That inevitably raises the fundamental issue of the effectiveness of governmental aviation supervision. To begin with, there is no dispute that the objective scope for action available to national authorities is particularly dependent on the size and expertise of its staff, the budget available to it, its organizational structure, and its legally guaranteed supervisory, instructive and penal powers – these factors all undoubtedly play a considerable part in ensuring that breaches of safety regulations are discovered and that punitive action is taken.

However, the illustrative statistics below will clearly show that it is highly questionable whether even the FAA itself, or the other national supervisory authorities which it has already placed, or is sure to place, in Category I such as Germany's *Luftfahrt-Bundesamt* (LBA), are really in any position to exercise their supervisory duties as thoroughly as they are required to. With a 1996 budget of \$4.7 billion allocated just to the "operations" area (the key category for our current purposes) and a staff of 48,158 (though this does include approx. 17,500 air traffic controllers), the FAA is admittedly the best-resourced authority of its kind around the world, both financially and in personnel, and in both absolute and relative terms.²³ Having suffered marked cuts in jobs during the 1980s, which incidentally was also the period of strongest passenger growth in the post-deregulation period for domestic US airline traffic, there are now only about 2,500 inspectors²⁴ responsible for ascertaining whether the airlines licensed in the country, whose combined fleet comes to 7,300 commercial aircraft, the operators of approx. 18,000 air taxis, the owners of approx. 180,000 general aviation craft, the approx. 4,900 licensed independent maintenance businesses, and the 800 licensed training centres for pilots and maintenance engineers are all really complying with the government's safety regulations. Thus the FAA is barely able to carry out regular and, more important,

unannounced local inspections. Instead, it mainly confines its supervisory activities to the post hoc evaluation of the inspection journals and maintenance documents filled out by the businesses it has to monitor. This procedure, which amounts to virtual self-regulation by the industry, and hence ultimately to the regulation of aviation safety by competitive forces, is still more widely established in Germany than it is in the USA. The LBA, which has a current staff of 417,²⁵ deploys just 20 (twenty!) of them, in Department II 4, to check the airworthiness of the more than 600 commercial aircraft registered in Germany (there are a total of 10,700 aircraft on the German civil register in all classes).²⁶

Even more than is the case in the USA, then, the real task of exercising supervisory control is carried out by specially licensed employees of the businesses being supervised. Although they are formally solely responsible to the LBA, they are not actually paid by the supervisory authority but are on the payroll of the aviation operators they are supposed to watch over. Even the present head of the LBA, Mr. Horst, publicly admits that, due to a chronic shortage of staff, the authority has for some time been unable fully to carry out its legal supervisory obligations.²⁷ In the light of these circumstances, incidentally, it is difficult to see how the Federal Minister of Transport, Matthias Wissmann, envisages that his proposal to tighten up supervision of foreign airlines should be implemented.

Yet even if the supervisory authority's objective capacity to take action were not in doubt, that in itself would not be a sufficient condition for an effective government supervisory agency, dedicated to passengers' interest in the highest possible safety standards. In the real world, the authority's actual willingness to take action is just as important a factor. And that in turn is a function of the extent to which the responsible officials are willing or able to fend off the influence of political circles or of the businesses they are supposed to be monitoring, and to come to truly objective decisions. Just as in any other field, there is no reason why the phenomenon of "regulatory capture" dealt with in the positive theory of regulation should not also occur in government aviation supervision, with all of the negative implications this entails

²³ See FAA: Administrators' Handbook, Washington, D.C., February 1996 edition.

²⁴ Cf. E. Phillips: Lack of Training, Inspectors Thwarts FAA Safety Oversight, in: Aviation Week & Space Technology, Vol. 144, No. 19, 6th May 1996, pp. 32 ff.

²⁵ This figure does not include the 834 employees in Department V, responsible for air traffic control. Cf. Luftfahrt-Bundesamt: Jahresbericht 1995, Braunschweig (Brunswick) 1996, p. 3.

²⁶ Cf. H. Siegmund: Luftfahrt-Bundesamt: Zahnloser Löwe, in: AERO, 11/1995, p. 33.

²⁷ Cf.: Bedingt kontrollfähig, in: Der Spiegel, No. 26, 24th June 1996, pp. 51 ff.

for the quality of the government-prescribed safety standards and the rigour and objectivity with which they are applied. In particular, the danger is that, in the guise of aviation safety and the public interest, all that will really be brought to bear is the commercial interest of existing airlines in maintaining and protecting their markets. This risk is naturally especially great in a situation in which the government supervisory authority has the legal remit not only to ensure the best possible safety in air transport but also – as in the FAA's case – to provide active support to the development of the air transport industry (i.e. both carriers and manufacturers) in its home country. As past experience has shown, it is by no means clear in cases of conflict which of these two objectives the FAA would give the higher priority. Certainly, one remarkable phenomenon in this respect is that numerous US airlines in the past have objected to the size of fines imposed against them by the FAA for operating deficiencies, and have often managed to "bargain" the authority down to lower penalties than it originally wished to impose.²⁸ Another remarkable situation was Colombia's relegation from Category I to Category II immediately after that country's government had rejected the USA's request for more extensive traffic rights for US airlines in their bilateral agreement. Yet another rather remarkable feature has been that the FAA followed a significantly different approach in practice when it evaluated the government supervisory authorities in Russia and China – both of which are extremely important markets for US aircraft manufacturers in their competition with the European Airbus, *inter alia*, and both of which carry far more weight politically (and hence also in trade policy) than Colombia or Thailand – and also in oil-rich Nigeria, compared with how it had dealt with all other countries previously reviewed under the Foreign Aviation Safety Assessment Program. In all three of these countries, a joint commission of enquiry was established, comprising representatives of the local supervisory authorities and the FAA, to seek out any deficiencies in the system and develop ways of endeavouring to rectify them. This time, the FAA refrained from classifying the countries in any of the four categories used elsewhere, presumably for fear that reprisals would be taken against the USA if the verdict were unfavourable. Given that the Russian government has still not passed any national legislation to deal with the aviation matters covered by the FAA's inspection criteria,²⁹ the only category the country could possibly have been placed in is Category III, with all of the detrimental consequences that would have brought upon the airlines based in Russia. What

the FAA actually did was to go down another new procedural track, by granting "minimally passing marks" to all of Russia's international air carriers, meaning that they retained the right to fly to US destinations. At the same time, the prohibition on the use of any of these airlines on business by US public employees which had previously been imposed by the US administration was duly rescinded.³⁰

There are two more reasons, that ought not to be ignored, why the FAA's Foreign Aviation Safety Assessment Program is objectively flawed. Firstly, there really is no close causal link between the supervisory capabilities of a certain country's civil aviation authority and the safety standards of the airlines domiciled in the same country. After all, numerous airlines from Third World countries have their aircraft maintenance and pilot training done by service organizations and training centres (or indeed by their aircraft's manufacturers) located in the industrial countries, to the high standards in force there. This is a thoroughly desirable practice, yet one which the Foreign Aviation Safety Assessment Program penalizes instead of encouraging, making the programme clearly counter-productive in this respect. Apart from that, this in particular shows the full extent of the discrimination involved against airlines based in countries where deficiencies in government aviation supervision are identified: these airlines inevitably suffer from the programme, as they are effectively "held captive" along with their government bodies – in total contrast to their American-based counterparts which can only have penalties imposed on them by the FAA for their own specifically proven breaches of safety regulations in which they are directly at fault.

Secondly, simply by virtue of the lack of traffic rights to non-national airlines (cabotage) in the countries concerned, the Foreign Aviation Safety Assessment Program does not in fact offer any additional protection to American passengers who want or need to use domestic flights within the countries classed in Categories II and III by the FAA.

Alternative Solutions

Given the large number of obvious weaknesses not only in the idea of the "blacklist" as a safety-

²⁸ Several examples of this are cited in G. Stoller: "Unairworthy", in: *Condé Nast Traveler*, August 1994, p. 26.

²⁹ Cf. P. Duffy: *Safety Measures*, in: *Flight International*, 17th-23rd April 1996, p. 59.

³⁰ Cf. J. Lenorovitz: *U.S. Lifts Travel Ban On Russian Airlines*, in: *Aviation Week & Space Technology*, Vol. 141, No. 17, 24th October 1994, p. 28.

enhancing instrument but also in government aviation supervisory authorities as such, one inevitably asks what alternative solutions might be available. As explained earlier, intra-modal competition among different airlines and inter-modal competition with other forms of transport fundamentally offer the best guarantee of a high standard of safety in air transport. Thus the central task in both domestic and international transport policies ought to be to endeavour to rapidly eliminate the numerous governmental and private-sector restraints on competition in the airline industry. Just how important it is that these endeavours must expressly include drastic cuts in the government subsidies, overt or covert, still generously provided to ailing national airlines is well illustrated by cases such as that of *Spantax*, the Spanish charter airline. Having suffered severe falls in bookings after a number of fatal accidents in the 1960s and '70s, it was only with large-scale financial support from the Spanish government that the airline managed to continue flying. However, following yet another serious accident at Malaga on 13th September 1982 (in which 51 people died), it eventually proved impossible to stave off the bankruptcy the state aid had served only to postpone.

Finally, given that nearly all countries around the world are still in serious breach of the fundamental market principle that actions must be matched by liability for those actions, there is an urgent need for root-and-branch reform of the rules of liability in air transport, which are currently extraordinarily unfavourable to damaged parties. Except in cases of gross negligence or wilful damage, the legally determined liability of airlines providing international connections is essentially still confined to the extraordinary low upper limits laid down in the 1929 Warsaw Convention, with the express purpose of protecting the airlines; these limits have since been raised in a number of protocols and other international agreements, though the latter have not been ratified by all countries, and the increases have been very slight. Unless it has voluntarily agreed to pay out up to a higher limit, an airline providing an international flight provides a maximum of DM 53,500 (at current conversion rates) per accident victim unless the flight is to or from the USA, when the figure is \$75,000 per victim, and both figures are inclusive of legal fees(!)³¹ Similar liability limits to protect airlines offering domestic flights are also quite usual around the world, though the limits on liability for damage suffered directly by persons and on third-party liabilities (e.g. the demolition of a house) are often somewhat higher.

Airlines in the USA are alone in having an unlimited liability for personal and material damage in connection with domestic flights.

The vast majority of passengers are totally unaware of these upper liability limits: the small print on an airline ticket usually just includes a notice, without any further specification, that liability is governed by the terms of the Warsaw Convention, and just a small number of airlines actually cite the level of the limits. This being the case, improving market transparency in this area unquestionably ought to take priority over the publication of objectively dubious "blacklists" of airlines from other countries that are presumed to be unsafe.

Conclusions

"Blacklists" do not offer any positive contribution towards improving aviation safety. As can be seen from the Foreign Aviation Safety Assessment Program operated in the USA, in substance they do not constitute a helpful approach, and apart from that they should be rejected on the grounds that they deliberately discriminate against certain classes of airlines, and as such are obviously protectionist in character. The argument holds all the more true since there are alternative instruments available which would enable the objective of increased aviation safety to be achieved without causing such concern with regard to economic fairness. The supervisory operations of national aviation authorities, which were shown earlier to be of limited effect in any case, ought at the end of the day to be confined to checking that foreign airlines are abiding by the ICAO minimum standards (in "ramp checks"), and responding to any breaches by the same criteria, applying the same penalties as would apply to home-based carriers. If, instead, the principle of unilateralism which inevitably underlies any "blacklist" were to gain the upper hand (i.e. the law of the strongest, which is always dubious in economics), the consequences would not stop at jeopardizing, on a lasting basis, the unconditional and (so far, at least) successful cooperation among the ICAO's 184 member states. More than that, it would also lower the readiness of many countries to agree to the long-overdue deregulation of cross-border commercial air traffic on the bilateral or multilateral levels (say, in a future round of GATT negotiations).

³¹ For further details, see W. Schwenk: *Handbuch des Luftverkehrsrechts*, 2nd ed., Cologne, Berlin, Bonn & Munich 1996, pp. 635 ff.; I. Awford: *Handling the Legal Consequences of Aviation Disasters: Passenger Compensation*, in: *Zeitschrift für Luft- und Weltraumrecht*, Vol. 41 (1992), pp. 42 ff.