

Andreas Knorr

## Will 'Blacklists' Enhance Airline Safety?



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## 1. Introduction\*

On 17 August 2005, Jacques Barrot, the EU's transport commissioner, announced the creation of a harmonized EU-wide a 'blacklist' of (presumably) unsafe airlines by early 2006. Based on joint European Parliament and EU Council Regulation 2111/2005 of 14 December 2005,<sup>1</sup> it was officially published on 22 March 2006. Ever since a total of 91 airlines now face a complete operational ban in Community air space, while 4 other carriers are subject to substantial operational restrictions.<sup>2</sup> The underlying motive was a series of accidents during the first half of August 2005 affecting mostly EU citizens. While all passengers and crew miraculously survived the crash landing of an Air France Airbus A340 in Toronto on 2 August, three further accidents claimed 297 lives.<sup>3</sup> Shortly after Barrot's announcement, the civil aviation supervisory bodies of two EU member states, France (Direction Générale de l'Aviation Civile – DGAC) and Belgium (Service public fédéral Mobilité et Transports), as well as Switzerland (Bundesamt für Zivilluftfahrt) released national 'blacklists'.

In civil aviation, 'blacklists' are not a recent phenomenon, however.<sup>4</sup> While the German government in vain requested a EU-wide 'blacklist' after the crash of a Boeing 757 operated by Turkish charter airline Birgenair killed 176 German holidaymakers in the Dominican

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\* The following text is the extended version of a paper presented at the 10th Annual Conference of the Air Transport Research Society (ATRS) on May 27th in Nagoya, Japan.

1 [europa.eu.int/comm/transport/air/safety/flywell\\_en.htm](http://europa.eu.int/comm/transport/air/safety/flywell_en.htm).

2 For the full list see Annexes I and II or [europa.eu.int/comm/transport/air/safety/doc/flywell/2006\\_04\\_25\\_flywell\\_list\\_en.pdf](http://europa.eu.int/comm/transport/air/safety/doc/flywell/2006_04_25_flywell_list_en.pdf).

3 An ATR-72 of the Tunesian airline Tuninter crashed into the sea near Palermo on 6 August 2005 (16 fatalities), followed by the crash of a Boeing 737 of Helios Airways from Cyprus near Athens on 14 August (121 fatalities). On 16 August, a McDonnell Douglas MD-82 of the Columbian West Carribean Airways was lost after double engine failure on a charter flight to the French overseas department Martinique (160 fatalities).

4 The term 'blacklist' was originally coined by the Germany's Nazi regime. The Nazi 'blacklist' named dissident artists with the aim to ostracize, and later prosecute, them.

Republic in 1996, the US Government has maintained one under the FAA's International Aviation Safety Assessment Program (IASA) since 1992. While the EU's 'blacklists'<sup>5</sup> consists of individual airlines – although there are some de facto blanket bans for all airlines registered in a few specific (African) countries –, the FAA evaluates whether its counterparts, i.e. foreign civil aviation supervisory bodies, are capable of enforcing mandatory ICAO minimum standards.<sup>6</sup> Finally, before the release of the EU's list, Great Britain's 'blacklist' named and shamed both the countries whose air operators certificates (AOC) it would not accept and the individual airlines whose entry permits it had temporarily suspended. Now, in addition to the entries in the EU's 'blacklist', the UK Government continues to ban 2 more airlines from operating into its air space: Air Mauritanie (Mauritania) and Sky Gate International Aviation (Kyrgyzstan).<sup>7</sup>

Their recent proliferation notwithstanding, from a safety perspective the merits of 'blacklists' are highly questionable. While their advocates emphasise the basic right of the flying public to full transparency, and further stress that the mere existence of 'blacklists' will increase the economic pressure on all airlines to adhere to legally mandated safety standards. This contrasts with the view that due to the substantial methodical weaknesses of 'blacklists', a specific label for particularly safe airlines should be introduced instead as an incentive. What is more, every national supervisory authority has always had the right to impose temporary or permanent flight bans against any airline which does not meet its safety standards. Sharing these demurs, this paper aims to identify their main methodological shortcomings of current 'blacklists' and to present more effective policy alternatives.

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5 The same goes for the former national 'blacklists' of France, Belgium and Switzerland.

6 The IASA was established in August 1992 – then labelled the Foreign Aviation Safety Assessment Program – as a reaction to the crash of a Boeing 707 of the Columbian airline AVIANCA, which had run out of fuel approaching New York City's JFK Airport. The results of the FAA's evaluation have been made available to the public since 1994 ([www.faa.gov/safety/programs\\_initiatives/oversight/iasa/](http://www.faa.gov/safety/programs_initiatives/oversight/iasa/)). For a more detailed analysis see *Button et.al.* (2004).

7 [www.dft.gov.uk/stellent/groups/dft\\_aviation/documents/pdf/dft\\_aviation\\_pdf\\_026674.pdf](http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/pdf/dft_aviation_pdf_026674.pdf).

## 2. Airline safety as an economic good

In any normally functioning market, even in the absence of government regulation and oversight bodies the safety preferences articulated by the average (well-informed) passenger would prevail. In other words, competitive pressures and, hence, economic self-interest would prevent any carrier to cut back from generally accepted safety standards. However, it is a key insight of information economics that market failure may *ceteris paribus* materialise if product quality cannot be properly assessed by potential buyers due to asymmetric information.<sup>8</sup> As the typical passenger is unable to objectively determine the safety standard of the chosen airline, the airworthiness of the aircraft in operation or the qualification of the crew and ground staff on duty, this problem is of extraordinary relevance in the area of airline safety. According to the standard model of asymmetric information, the uninformed buyers falsely assume that all suppliers offer identical product quality. As the model (in another oversimplification) also assumes that higher product quality invariably translates into higher production costs and hence prices, adverse selection inevitably results in this setting: Bad quality suppliers drives out good quality suppliers through their lower prices, although most consumers would have been willing to pay a higher price for superior quality, had they been able to detect existing quality differences. In the theoretical extreme, the market will collapse in the end. Applying this model to the market for airline services, the likely final outcome would see passengers switch to presumably safer alternative transport modes in the end.

However, as asymmetric information is a phenomenon inherent in every transaction, it seems appropriate to distinguish between three types of goods in this context: search goods, experience goods and credence goods. This classification is crucial as the mechanisms by which the information problem can be solved best, or at least be attenuated, vary depending on the type of good involved. To begin with, search goods usually raise only minor problems since the potential buyer can easily assess their quality beforehand at little or no cost. In contrast, the attempt to judge the quality of experience goods before the purchase is accompanied by higher costs and, in case of more

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8 For a full discussion see the seminal papers by *Akerlof* (1970), *Nelson* (1970) and *Darby/Karni* (1973) as well as the recent literature survey by *Dulleck/Kerschbamer* (2006).



complex goods, typically not feasible for laymen. Consequently, their actual quality only becomes evident after consumption. Finally, with respect to pure credence goods, the theoretical extreme, any objective quality assessment – regardless of whether it is conducted by private or public agents – is impossible even then.

In practice, however, asymmetric information can be overcome or at least substantially alleviated either through private action taken by the affected market participants and/or by means of government intervention. Private-sector strategies are typically classified as ‘screening’ and/or ‘signalling’. ‘Screening’ activities are unfolded by the poorly informed market participants. In the context of airline safety, the passenger itself or, in case of charter flights the tour operator, might try to raise their level of information through own investigations – obviously, cockpit crews performing their pre-flight checks fall into this category, too – or by seeking expert advice. ‘Signalling’ is, by contrast, performed by the better informed market participant – in this case the respective airline –, which tries to communicate its true – i.e. superior – safety standard to potential customers. However, as (comparative) advertising of safety standards is still by and large taboo in the aviation sector,<sup>9</sup> an airline’s safety reputation – a very subjective measure which essentially reflects the public’s and the media’s perception of the safety of its operation – arguably plays the most significant role for (potential) consumers. In addition, private certification schemes have gained popularity in recent years as an additional screening/signalling device.

Irrespective of the fact that all aforementioned private-sector techniques impose costs on those who pursue them, their shortcomings should not be underestimated. In short, in case of highly complex products, ‘screening’ strategies based on expert advice create an additional layer of asymmetric information and, hence, costs due to the need for the client to verify the experts’ level of expertise, as well as their objectivity and independence. The same problem exists with respect to ‘signalling’ by means of quality labels. The question of the issuing agencies’ reputation for expertise and their independence immediately come to mind as, typically, it is the company which under-

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9 Recent attempts to the contrary by individual carriers, most notably Lufthansa, as well as Airbus Industries’ highly controversial “4 engines 4 long-haul”-campaign notwithstanding.

goes the process of accreditation which has to bear its costs – obviously a potential source of corruption.

Given the deficiencies of private-sector remedies, supplementary government intervention is therefore without doubt required to enhance airline safety. Appropriate measures typically include strict liability regulations in conjunction with compulsory insurance schemes, the duty to release all safety-relevant data and to report incidents to the authorities in charge as well as legal minimum requirements, especially in the crucial areas of training, maintenance and cockpit procedures.

Nevertheless, the effectiveness of government action in the area of aviation safety should not be overrated either as the following examples clearly demonstrate. To begin with, it was not until 3 November 2003 that commercial airlines' beforehand limited liability for personal injury was essentially revoked (except for cases where air carriers can prove that they were not at fault). On that date, the 1999 Montreal Convention for the Unification of Certain Rules for International Carriage by Air took effect after the 30<sup>th</sup> national ratification document was lodged;<sup>10</sup> so far 66 countries have adopted it.<sup>11</sup> In addition, the convention, stipulates a compulsory liability insurance requirement for airlines and tour operators for the first time.

The effectiveness of three further crucial areas of governmental action with respect to airline safety is far more difficult to judge, however: the adequacy of the safety regulations in place, the problem of potential safety-relevant loopholes in these regulations as well as the question to what extent state supervisory authorities are actually willing and able to uncover breaches of the law and to sanction them appropriately. The fundamental prerequisites – absolute independence vis-à-vis political exertion of influence, an adequate number of competent and incorrupt inspectors as well as rigorous and promptly publicly released sanctions culminating, in extreme cases, in the revocation of the affected airline's air operator certificate<sup>12</sup> – can in practice not be taken for granted, not only in developing countries. For example, in the US, the FAA's mission is not only to guarantee a high level of air-

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10 See *Reuschle* (2005).

11 [www.luftrecht-online.de/regelwerke/pdf/montreal-D.pdf](http://www.luftrecht-online.de/regelwerke/pdf/montreal-D.pdf). – In the mid-term it supposed to replace the 76-year-old Warsaw Agreement.

12 See *Knorr* (1997).

line (aviation) safety, but also to actively promote the economic interests of US' aviation sector – two objectives which obviously might seriously conflict in certain circumstances.<sup>13</sup> Also the ICAO, in a confidential investigation, had to admit, that numerous of its member states do not meet current ICAO standards, although this finding so far was not made public. According to a recent article by USAToday, however, this assessment holds true of a total of 26 ICAO member states, most of them from Africa, the Caribbean and Southern America.<sup>14</sup>

### **3. Exogenous determinants of airline safety**

From the typical passenger's point of view the airlines are solely responsible for the safe operation of a flight. Indeed, most accidents can primarily be ascribed to pilot error.<sup>15</sup> Nevertheless, numerous determinants of airline safety are entirely or at least partially uncontrollable by the airlines themselves. First of all, this obviously applies to the quality of governmental supervision. Accordingly, the same goes for design flaws previously undetected by aircraft or equipment manufacturers and certification agencies alike. Furthermore, an airline's operational environment considerably influences its safety record. Aside from the (non-)availability of safety-relevant ground equipment like navigational and landing aids, runway and tarmac markings etc., the quality of air traffic control as well as weather conditions at the point of departure, en route, at the destination airport and at potential alternate airports are crucial determinants. Finally, as last but not least the events of 9/11 show, air transportation has been much more often targeted by terrorist attacks and hijacking attempts than all other modes of passenger transport.

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13 *Schiavo* (1997) critically discusses the situation in the USA.

14 See ICAO (2004); USAToday Online (2005).

15 See Boeing (2005).

## 4. Indicators of airline safety

Any compilation of a ‘blacklist’ would have to be considered arbitrary were it not based upon a set of statistically reliable indicators of airline safety. Unfortunately, as will be demonstrated in this paragraph, this is not the case – essentially, because no such indicators exist.

### 4.1 Accident statistics and accident probability

Average accident probability and especially the variation of this measure over a specific period of time, is commonly accepted and commonly thought of as a meaningful – albeit by definition *ex post* – indicator of the safety standard of a certain airline or country. According to the ICAO (Annex 13 of the Chicago Treaty) an accident is defined as any unforeseen occurrence, in which a person is fatally or seriously injured as a result of being on the aircraft, or on ground and/or the aircraft sustains damage or structural failure, which would normally require major repair or replacement of the affected component (except for engine failure and damage), and/or the aircraft is missing or completely inaccessible.<sup>16</sup> In order to be able to calculate the accident probability it is necessary to relate the number of thus defined accidents to a measure of transport performance. However, as transport performance can be measured and understood in different ways, the achieved safety level in the reference period can be differently assessed. Eminently common indicators are (fatal) accidents per 1 million passenger kilometres/miles and (fatal) accidents per 100,000 flights respectively.

However, accident risk *per se* cannot be considered as a particularly meaningful indicator of airline safety standards, even though it is often used by the media after serious accidents when ranking lists of the (allegedly) most (un)safe airlines circulate.<sup>17</sup> This has two fundamental reasons:

- Accidents in commercial air transportation are statistically exceptionally rare events. Due to the very small number of relevant oc-

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16 [www.iprr.org/Manuals/Annex13.html](http://www.iprr.org/Manuals/Annex13.html).

17 The best-known providers are the German Jet Airliner Crash Data Evaluation Centre (JACDEC) ([www.jacdec.de](http://www.jacdec.de)) and the Swiss Bureau d’Archives des Accidents Aéronautiques ([www.baaa-acro.com/index\\_f.html](http://www.baaa-acro.com/index_f.html)).

currences, this inevitably leads to the fact that the calculation of the statistic accident risk of a particular airline is highly dependent on the selection of the observation period. Even without an intention to manipulate, an objective account of the accident risk is hardly impossible to compile due to the absolute rarity of accidents. The following hypothetical example clarifies this: Assume that two in every respect (i.e. fleet size and composition, destinations, number of flights and passengers, identical date of establishment and so on) identical airlines with one accident each exist. The sole differences are the dates of the respective accidents; the accident in case of airline A occurred at the first day of operation while the accident in case of airline B happened only yesterday. Statistically, airline A appears to be the less safe airline during almost the whole observation period despite its ex post objectively identical safety standards. However, statistically airline A's accident risk decreased during the observed period of time while airline B's increased.

- If the aforementioned homogeneity assumptions are put aside, one still has to consider that the statistical accident likelihood is significantly influenced by an airline's operational environment, i.e. the above discussed exogenous factors, as well as its specialisation. Obviously, the accident risk is statistically significantly higher at airports, which are comparatively poorly equipped with air traffic control and navigational aids, particularly at airports in countries of the third world countries or in regions where adverse weather conditions are frequent.<sup>18</sup>
- Furthermore, the statistical accident likelihood can be falsified by 'wisely' selecting the measure of traffic performance with which it must be contrasted. The attempt to assess an airline's accident likelihood by using passenger kilometers/miles as a reference would distort the result at the expense of airlines, which mainly operate short-distance routes, as 71 percent of all accidents happen during the take-off- or landing-phase of a flight, but only five percent en route during cruise.<sup>19</sup> Airlines mainly operating on short-haul routes usually run significantly higher numbers of

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18 See Netherlands Directorate-General of Civil Aviation (1996).

19 See Boeing (2005), p. 16.

flights and/or usually use smaller aircraft, often to small and relatively ill-equipped airfields.

- Another possibility to assess the accident likelihood is the usage of 'fatality rates'. This measure is defined as the absolute number of fatalities in relation to a particular's airline traffic performance. However, the usage of this measure has to be generally rejected as the number of fatalities is subject to random variation – load factors differ substantially – and, what is more, the affected airline is usually unable to exert any influence on the actual number of fatalities. The number of fatalities fundamentally depends on the speed upon impact, the number of the emergency exits usable during an evacuation, the response time of the emergency services and airport fire brigades and above all on the load factor of the affected aircraft. What is more, total losses involving no fatalities, e.g. due to favourable circumstances, are not included in the assessment of 'fatality rates' even when the respective accident is caused by severe failures of the airline or its employees.
- Therewith, another major objection against the aforementioned indicators is addressed: The accident likelihood, which is calculated by means of the aforementioned or similar indicators, does not include any information about the accident's causes. The in fact decisive question whether the particular accident was caused by exogeneous factors, or was due to contributory negligence or fault of the respective airline, cannot be answered when using these indicators. A thorough inquiry, conducted by independent specialists, is required in order to answer this question.

## **4.2 Early indicators**

Early indicators for the purpose of accident prevention gained in importance during the last years facing the marginal informative value of accident likelihood and its ex post-character. In general, input-oriented and incident-based early indicators are to be distinguished.

### *4.2.1 Input-oriented early indicators*

Advocates of input-oriented early indicators assume a statistically significant cause-and-effect-correlation between in safety-relevant areas

placed real and personnel investment and the safety standard achieved by a particular airline or country. This is based on the assumption that airlines, which are lastingly in deficit, and airlines, which operate older aircraft, as well as poorer states are subject to a comparatively higher accident risk. However, such a correlation could not be statistically verified so far. The aforementioned reasoning misconceives that an operating profit can also be the result of savings, which in the long term might turn out as crucial for the air safety. Furthermore, the mere existence of an operating profit does not reveal whether these resources for additional investment are used in safety-relevant areas. Yet if this were actually to be the case, one still has to consider varying degrees of maintenance and training efficiency. Even in case of large differences in spending for maintenance and training, these might simply reflect productivity differences due to economies of scale rather than divergent safety standards. Noticeable savings in these areas, which are moreover neutral to the issue of air safety, can be achieved by a homogenous fleet ('commonality', 'cross qualification') or by outsourcing certain activities to specialised subcontractors. What is more, the necessary maintenance effort – even in case of an identical aircraft type – significantly depends on the age structure of an airline's fleet. In addition, aircraft manufacturers have regularly managed to achieve extensions of service intervals for their more modern types. Finally, the strict adherence to maintenance provisions as well as their strict enforcement by supervisory authorities and insurance companies presumed, the age of the aircraft in operation usually does not pose a safety problem per se. Thus, the technical lifetime indicated by manufacturers now typically reaches more than forty years.<sup>20</sup>

For lack of appropriate studies, a further question cannot be easily answered. This is the question whether a correlation between a supervisory authority's equipment with resources and the accident likelihood of airlines based in the respective country exists. The ICAO in fact had to admit that a substantial number of its 189 member states

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20 The number of actually operated 'cycles' and not the year of an aircraft's manufacture are decisive for the definition of the technical age of an aircraft. 'Cycles' essentially represent the number of flights undertaken and by knowledge of these one can identify how often an aircraft's hull came under the (wearisome) pressurisation.

– without, sure enough, naming and shaming them so far<sup>21</sup> – are virtually unable to locally enforce ICAO minimum standards.<sup>22</sup> However, as aforementioned in a different context even sufficient resources per se do not necessarily guarantee a high supervision quality. Furthermore, it is thinkable that at least the larger airlines from developing countries, which are subject to international competition and/or associated with one of the big alliances and/or one or several of the big players through codesharing agreements, voluntarily adhere to internationally accepted safety standards for the sake of their economic self-interest, even if the national supervisory authorities are unable or unwilling to enforce international safety standards.<sup>23</sup>

#### 4.2.2 Incidents

According to commonly accepted definitions, an incident is defined as an occurrence associated with the operation of an aircraft, which affects or could affect the safety of operation without however resulting in an actual accident. Examples are near misses on ground or in the air, aircraft engine failures, the malfunction of crucial aircraft instruments or other technical failures or operating errors. The manifold efforts to systematically record such incidents and the implementation of random inspections of the technical state of an aircraft between two flights are based on the assumption that often mere chance determines whether an incident becomes an accident. In fact, a thorough analysis of the cause of such failures as well as research in the cause of accidents themselves seems to be suited to generate valuable in-

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21 However, at an extraordinary conference, attended by delegates from 159 ICAO member states agreed unanimously to publish the names of countries which fail to sign up within the next 2 years for the publication of their results in ICAO's Universal Safety Oversight Audit Programme. For details see *Learmount* (2006).

22 See *Belai* (2003).

23 The safety turnaround at Korean Air is a case in point. After a string of 8 fatal accidents in just a few years, which had not led to any action on behalf of the Korean supervisory authority, Delta and Air France temporarily terminated their codeshare agreements with this carrier. However, in order to resume joint operations, they were allowed to bring in experienced pilots and operations experts to help Korean Air to meet internationally accepted standards.



formation in order to disclose existing safety shortcomings. However, one has to anticipate a potential ‘dark figure’ even in case a general obligation to report exists, be it because the affected crews dread the necessary time expenditure or because sanctions imposed by the supervisory authority or employer are lurking if their own misconduct is the cause.

## 5. ‘Blacklists’ in practice

### 5.1 The EU’s ‘blacklist’

As mentioned above, the EU’s ‘blacklist’ consists of 91 carriers which are subject to a complete ban plus 4 airlines which face operational restrictions. This typically means that only specific aircraft – the registration numbers of which are also listed – are permitted to serve EU (and Swiss) airports.<sup>24</sup> After the release of the EU-wide ‘blacklist’, France, Belgium and Switzerland withdrew their national ‘blacklists’ completely, while the UK, as mentioned above, still runs a slightly extended ‘blacklist’ of its own. According to the EU, its ‘blacklist’ was compiled on the basis of national contributions by experts from all EU member states, the so-called Aviation Safety Committee, based upon “evidence of violation of objective and transparent criteria” which were published in EC Regulation 2111/2006.<sup>25</sup> These primarily include

- “the results of checks carried out in European airports;
- the use of poorly maintained, antiquated or obsolete aircraft;
- the inability of the airlines to rectify shortcomings identified during inspections;
- and the inability of the authority responsible for overseeing an airline to perform its tasks properly.”<sup>26</sup>

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24 The EU states that 92 airlines are banned, while 3 are subject to operational restrictions. This statement is factually wrong, however, because, although listed among the banned carriers, Ariana Afghan (Afghanistan) is still allowed to operate on of its aircraft into the Community. For the full ‘blacklist’ see Annexes I and II.

25 EU Commission (2006a).

26 *Ibid.*

The list will be updated at least every 3 months, with the Commission, based upon input from the Aviation Safety Committee, deciding whether to add or remove a specific airline. 84 of the ‘blacklisted’ airlines originate in just 5 Sub-Saharan African countries whose AOC are no longer generally recognised by the EU: the Democratic Republic of Congo (currently 51 entries), Equatorial Guinea (11 entries), Liberia (3 entries), Sierra Leone (13 entries), and Swaziland (6 entries). The remaining 11 airlines which are subject to bans or restrictions are registered in North Korea (1 entry), the Comoros (1 entry), Afghanistan (1 entry), Kazakhstan (2 entries), Kyrgyzstan (2 entries), Thailand (1 entry), Rwanda (1 entry), Bangladesh (1 entry) and Libya (1 entry). Interestingly, the EU’s blacklist contains only 4 of those airlines which had been included in France’s, Belgium, the UK’s and Switzerland’s former national lists.<sup>27 28</sup>

## 5.2 The FAA’s International Aviation Safety Assessment Program

In contrast, the FAA distinguishes between states, whose national supervisory authorities are able to enforce the minimum standards stipulated by the ICAO, the so-called Category 1-states, and states which are in the FAA’s opinion unable to do so. The latter, subsumed under the so-called Category 2, currently include Argentina, Bangladesh, Belize, Bulgaria, the Democratic Republic Congo, the Dominican Republic, Ivory Coast, Gambia, Ghana, Guatemala, Haiti, Honduras, Kiribati, Nauru, Nicaragua, the affiliated states of the Organisation of the East-

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27 These carriers are: Air Koryo (North Korea), Phuket Airways (Thailand), Silverback Cargo Freighters (Rwanda), and Phoenix Aviation (Kyrgyzstan).

28 At the release date of the EU’s list, the national lists had the following entries: **FRANCE**: Air Koryo (North Korea), Air Saint-Thomas (US Virgin Islands), International Air Service (Liberia), Air Mozambique (LAM) incl. its subsidiary Transairways (Mozambique), Phuket Airways (Thailand) and Cameroon Airlines (Cameroon); **BELGIUM**: Africa Lines (Central African Republic), Air Memphis (Egypt), Air Van Airlines (Armenia), Central Air Express (Democratic Republic Congo), I.C.T.T.P.W. (Libya), International Air Tours Ltd. (Nigeria), Johnsons Air Ltd. (Ghana), Silverback Cargo Freighters (Rwanda) and South Airlines (Ukraine) – all of them cargo operators; **UK**: Air Mauritanie (Mauritania), Phoenix Aviation (Kyrgyzstan) and Phuket Airlines (Thailand) as well as all carriers registered in Democratic Republic Congo, Equatorial Guinea, Liberia, Sierra Leone, Swaziland and Tajikistan; **SWITZERLAND**: Flash Airlines (Egypt), Air Van Airlines (Armenia).

ern Caribbean States (Anguilla, Antigua and Barbuda, Dominica, Grenada, Montserrat, St. Lucia, St. Vincent as well as the Grenadines, St. Kitts and Nevis), Paraguay, Serbia and Montenegro, Swaziland, Turks and Caicos, Ukraine, Uruguay as well as Zimbabwe.

Generally, the airlines or states listed could be unlisted, provided that amendment measures are successfully undertaken. Moreover, the US IASA-programme differs from the other concepts of 'blacklists' in a further respect. In its case, the classification of a state in Category 2 does not automatically result immediately in the complete revocation of landing rights of the airlines based in the respective country. Thus, airlines, which already serve US airports, are initially inspected within the scope of ramp checks more often. Furthermore, these airlines are not allowed to exercise their as yet unutilised traffic rights, i.e. they are not allowed to expand their services to and from the USA to the actually permitted volume, until the FAA agreed a plan with the supervisory authority of the state in question in order to remedy the identified shortcomings. The affected airlines are therefore not allowed to increase their service volume on existing routes to and from the USA and they are further not allowed to add new routes; the only exception are services, which are operated with crews and aircraft registered in the US or other Category 1-states using wet-leasing arrangements. Moreover, these airlines are also not allowed to agree code-sharing agreements with a US airline during this period of time. If the identified shortcomings are not remedied during an adequate period of time the US Department of Transport then can revoke all service rights of the affected foreign airline if the FAA suggests this. Finally, airlines of Category 2-countries which at that time of the FAA assessment did not exercise their traffic rights to and from the USA, are refused entry into US air space until the identified shortcomings have been remedied by their national supervisory authority. This essentially means that those airlines are not allowed to exercise their service rights, which have been granted to them in bilateral air transportation agreements between their home country and the USA.

### **5.3 Critical appraisal**

If one compares the results of the 2 aforementioned 'blacklists', three things immediately attract attention:

- No operator of major fleets of Boeing or Airbus aircraft has been added to either list.
- The airlines listed on the EU's 'blacklist' are all very small third world operators. The overwhelming majority of which exclusively operate domestically and regionally and which have, for lack of adequate aircraft as well as traffic rights, never served any EU airport, nor are likely ever to do so. The same limitation applies to the – in terms of sanctions – much less restrictive IASA-based 'blacklist' maintained by the FAA.
- Based on the renowned Aviation Safety Network's comprehensive accident database, a great many of the blacklisted airlines or Category 2-countries have not suffered an exceptional number of accidents so far – despite in part extremely adverse operational environments.<sup>29</sup>

What is more, as stated above, with respect to the EU's 'blacklist', ramp checks play a key role in the assessment of an airline's safety performance. Their effectiveness, however, is fairly limited. The on-site inspection typically lasts between 15 and 45 minutes and does only allow the identification of the most obvious violations against technical and operational safety regulations – and even this only for particular aircraft and/or crew though not for every airline in total. The explanatory power of such checks is further limited as some factors, which are crucial for the safe operation of a flight, are not checkable during the short time on ground. The behaviour and concur of the crew during the flight or critical situations (keyword: crew resource management – CRM) surely has to be mentioned in this respect as pilot errors are the major cause of more than half of all accidents.<sup>30</sup> What is more, ramp checks differ starkly from country to country, mainly due to political reasons or differences in resources. This fact is impressively proven by an evaluation, which has been commissioned by the European Commission, of the Safety Assessment of Foreign Aircraft Programme (SAFA)<sup>31</sup>, which is borne by the European Civil Avia-

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29 [aviation-safety.net/database/operator/](http://aviation-safety.net/database/operator/).

30 See Boeing (2005), p.17.

31 See EU Commission (2005), ECAC (2005).

tion Conference (ECAC)<sup>32</sup> and mandatory for all EU member states since Directive 2004/36/EU came into force on 21 April 2004.<sup>33</sup>

Moreover, one should not ignore a further major shortcoming of 'blacklists': 'Blacklists' are susceptible to political intervention and retaliation measures. In fact, outsiders cannot objectively prove this; nonetheless significant indications for the aforementioned assumptions do exist. Two examples: The Dutch supervisory authority imposed a temporary approach ban on the Turkish charter airline Onur Air on 12 May 2005 after two incidents (without any personal injuries) became publicly known. The German, French and Swiss supervisory authorities shortly afterwards followed suit. Hereupon, after massive protests the Turkish government temporarily and against effective international regulations refused approach rights for EU airlines, which should fly out stranded holidaymakers as a substitute for Onur Air. The flight ban imposed on Onur Air was revoked shortly afterwards.<sup>34</sup> More recently, in February a SN Brussels Airbus 330 aircraft was held at Kigali airport in Rwanda, allegedly for lack of adequate maintenance documents, after one Rwandan cargo operator had been put on Belgium's national 'blacklist'.<sup>35</sup>

In the USA, the FAA also chose a strikingly different approach compared to its standard procedure in line with its IASA program when evaluating China and Russia – countries with substantial political and/or economic clout – for the first time during the 1990ies (in the meantime both countries have been assigned to Category 1). Initially a joint fact-finding committee including the supervisory authori-

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32 ECAC currently counts 41 member states, including all 25 EU member states.

33 Directive 2004/36/EC of the European Parliament and of the Council of 21 April 2004 on the safety of third-country aircraft using Community airports, Official Journal L 143 of 30 April 2004. – The directive has to be transposed into national law until 30 April 2006. A supplementing directive about the information of passengers about the identity of the operating airline and the exchange of safety-relevant information between member states has been proposed (COM(2005) 48 final version of 16 February 2005. ([http://eur-lex.europa.eu/LexUriServ/site/en/com/2005/com2005\\_0048en01.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/com/2005/com2005_0048en01.pdf)).

34 See *Scherer* (2005), p.R1, and the relating press releases by Onur Air. ([www.onurair.de/site/nachrichten.asp](http://www.onurair.de/site/nachrichten.asp)).

35 *Turner* (2006a).

ties of the two countries and the FAA was set up in order to identify possible system shortcomings and to develop approaches to remediate them. Furthermore, both countries were initially not classified, presumably due to the fairly reasonable fear that Boeing might lose out against Airbus on both markets. Thereby, Russia had not even adopted national air transport legislation in the sense of the FAA inspection criteria at that time. This normally would have led to the classification of Russia as a Category 2-country (then still known as Category III) with all aforementioned negative economic consequences for airlines based in Russia.<sup>36</sup> Instead, the FAA waved through Russia with 'minimally passing marks' and, thus, the right to operate services to and from the USA according to the bilateral air transportation agreement on all internationally active Russian airlines; however, the programme normally would not have granted such a possibility. Therefore, all internationally active Russian airlines could fly to and from the USA without further restrictions. Moreover, the US government revoked a travel ban for US officials, which did not allow them to use Russian airlines on business trips.<sup>37</sup>

What is more, realistically seen, given the extremely aggressive competition between Boeing and Airbus Industries, it seems highly unlikely, that the EU and the US would ever 'blacklist' a major customer of either manufacturer, or downgrade that airline's country of origin.

In addition, a considerable potential for discrimination and retaliatory tit-for-tat action exists as foreign airlines are taken liable for the shortcomings of the national air transportation supervision of their country of origin while their US and EU competitors are considered to be under the supervision of infallible regulatory agencies. However, there is no clear correlation between the inspection capabilities of any supervisory authority and the safety standards of airlines based in this country. This is because numerous airlines based in third world countries maintain their aircraft and/or train their pilots in industrialized countries, or have these tasks performed by their alliance or codeshare partners,<sup>38</sup> or the aircraft manufacturers themselves provide these ser-

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36 See *Duffy* (1996), p. 59.

37 See *Lenorovitz, J.* (1994), p. 28.

38 This is true of Swaziland-registered SA Airlink, a 10 per cent subsidiary and codeshare partner of Star Alliance Member South African Airways. Neverthe-

vices according to their own high standards. Though certainly a welcome practice, these airlines' safety-conscious behaviour is not honoured by the EU's 'blacklist' and the FAA's IASA program. Finally, it should not be overlooked in this context that 'blacklists' does not at all contribute to solve the fundamental problem in the area of airline and aviation safety: how to help economically and/or politically weak nations to effectively and durably implement ICAO minimum standards.

Therefore, to summarize briefly, especially the EU's 'blacklists' protective effect for EU citizens is close to zero at best. What is more, EU and US citizens who have to travel with 'blacklisted' carriers outside the EU or in Category 2-countries – let alone local passengers – enjoy no protection whatsoever.

## 6. Alternatives

In the face of the evident shortcomings of 'blacklists' the question arises whether more effective alternatives exist. Indeed, the following package of measures appears to be a fundamentally better approach to enhance airline safety:

- A better flow of information between the national supervisory authorities is certainly necessary. This also includes the duty to a prompt relaying of safety-relevant information among all supervisory authorities – e.g. by using a joint databank as in case of the SAFA-programme.
- Improved liability regulations are also desirable. Despite the recent tightening of liability regulations the principle of absolute liability for personal injury and property damage – including the obligatory conclusion of liability insurance for airlines – is still not comprehensively realised, primarily in the more accident-prone countries of the Third World.
- Furthermore, a stronger differentiation between insurance premiums, which have to be paid by airlines in order to insure their equipment against damages, should be aimed for. However, this requires that the national supervisory authorities promptly inform insurance companies about safety-relevant results of ramp

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less, SA Airlink was 'blacklisted' by the EU and is contesting this decision. See *Turner* (2006b) for details.

checks, proved violations of maintenance and safety regulations and outstandingly severe incidents of their insurance holders.

- The public – including insurance holders as well as tour operators – should be comprehensively informed about any safety-relevant incidents at particular airlines by supervisory authorities and incident investigation bodies. The US supervisory authority FAA e.g. publishes press statements about the imposition of sanctions against airlines and the reasons for their imposition or recommendation<sup>39</sup>, while the German Luftfahrtbundesamt totally abstains from the provision of such information.
- While numerous foreign accident investigation bodies like the National Transportation Safety Board (USA), the Air Accidents Investigation Branch of the British Department of Transport or the Büro für Flugunfalluntersuchungen (Switzerland) generally name the affected airline in their investigation reports, this key information is generally missing in the reports of the German Bundesstelle für Flugunfalluntersuchungen. Full transparency in this area should become mandatory, however.
- The ICAO initiated its Universal Safety Oversight Audit Programme (USOAP) as a reaction to the US IASA-program in 1998.<sup>40</sup> Subject of this programme is the evaluation of national supervisory authorities of the ICAO's 189 member states and it represents the first serious attempt to systematically record violations against the ICAO minimum standards, which are still fairly frequent in Third World countries, and to remediate these in the long term by systematically assigning funds and know-how as well as exerting political pressure.
- Finally, 2001 saw the inception of a certification procedure by the IATA.<sup>41</sup> In line with the so-called IATA Operational Safety Audit (IOSA) independent private agencies, which have been designated by the IATA, evaluate safety-relevant procedures and methods of airlines. The constituent of the programme bears all costs incurred and the programme is generally not only open to

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39 [www.faa.gov/news/](http://www.faa.gov/news/).

40 See Anon. (2005), p. 3. The respective ICAO resolutions are A32-11 and A33-08.

41 See IATA (2003): Airlines to undergo initial IATA operational safety audit by 2006, in: ICAO Journal, Vol. 58, No. 9, p. 22-4 and p. 30.



the currently 265 IATA-members, but also to all other airlines interested (in fact, recently it was made mandatory for all IATA members to undergo IOSA who, in case of non-compliance will face exclusion for the organisation). Airlines, which passed the evaluation, are listed in a publicly accessible register<sup>42</sup>, whereas the IOSA-certificate has a validity of two years. Thereafter, an anew certification is required. The evaluation reports remain the possession of the airline in question, however, with approval of the respective airline they can be inspected by other airlines, e.g. in the course of code-sharing agreements.

## 7. Conclusion

For the reasons discussed in this paper, 'blacklists' do not positively contribute to the improvement of aviation safety. Not only do they fail to provide an objective as well as reliable indicator of airline or country safety standards. Furthermore, 'blacklists' do not identify, let alone help to remedy the underlying causes of safety problems and are, as a result, no adequate policy instrument to enhance safety standards of individual airlines and in specific countries, in particular many poor and ill-governed third world countries. In fact, especially the EU's 'blacklist' is simply a grossly misleading bureaucratic exercise – a mere placebo for a safety-conscious but uninformed public. Fatal and non-fatal airline accidents will inevitably continue to happen – both to 'blacklisted' carriers and those unlisted airlines which are deemed 'safe' by supervisory authorities, policymakers and the media.

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42 [www.iata.org/ps/services/iosa/registry.htm](http://www.iata.org/ps/services/iosa/registry.htm).

### Annex I:

Airlines completely banned under the EU's 'blacklist' (as of 04/2006)

Airline	Country	Remarks
Air Koryo	North Korea	previously listed on France's 'blacklist'
Air Services Comores	Comores	
BGB Air	Kazakhstan	
GST Aero	Kazakhstan	
Phoenix Aviation	Kyrghizstan	previously listed on the UK's 'blacklist'
Phuket Airlines	Thailand	previously listed on France's and the UK's 'blacklists'
Reem Air	Kyrghizstan	
Silverback Cargo	Rwanda	previously listed on Belgium's 'blacklist'
Africa One	Dem. Rep. of Kongo	
African Company Airlines	Dem. Rep. of Kongo	
Aigle Aviation	Dem. Rep. of Kongo	
Air Boyoma	Dem. Rep. of Kongo	
Air Kasai	Dem. Rep. of Kongo	
Air Navette	Dem. Rep. of Kongo	
Air Tropiques	Dem. Rep. of Kongo	
ATO	Dem. Rep. of Kongo	
Blue Airlines	Dem. Rep. of Kongo	
Business Aviation	Dem. Rep. of Kongo	
Butembo Airlines	Dem. Rep. of Kongo	
CAA	Dem. Rep. of Kongo	
Cargo Bull	Dem. Rep. of Kongo	

Airline	Country	Remarks
Central Air Express	Dem. Rep. of Kongo	previously listed on Belgium's 'blacklist'
Cetraca	Dem. Rep. of Kongo	
CHC Stelavia	Dem. Rep. of Kongo	
Comair	Dem. Rep. of Kongo	
Compagnie Africaine d'Aviation – CAA	Dem. Rep. of Kongo	
CO-ZA Airways	Dem. Rep. of Kongo	
Das Airlines	Dem. Rep. of Kongo	
Doren Aircargo	Dem. Rep. of Kongo	
Enterprise World Airways	Dem. Rep. of Kongo	
Filair	Dem. Rep. of Kongo	
Free Airlines	Dem. Rep. of Kongo	
Galaxy Transportation	Dem. Rep. of Kongo	
GR Aviation	Dem. Rep. of Kongo	
Global Airways	Dem. Rep. of Kongo	
Goma Express	Dem. Rep. of Kongo	
Great Lake Business Company	Dem. Rep. of Kongo	
ITAB	Dem. Rep. of Kongo	
Jetair	Dem. Rep. of Kongo	
Kinshasa Airways	Dem. Rep. of Kongo	
Kivu Air	Dem. Rep. of Kongo	
LAC	Dem. Rep. of Kongo	
Malu Aviation	Dem. Rep. of Kongo	
Malila Airlift	Dem. Rep. of Kongo	
Mango Mat	Dem. Rep. of Kongo	
Rwabika Bushi Express	Dem. Rep. of Kongo	

Airline	Country	Remarks
Safari Logistics	Dem. Rep. of Kongo	
Services Air	Dem. Rep. of Kongo	
Tembo Air Services	Dem. Rep. of Kongo	
Thom's Airways	Dem. Rep. of Kongo	
TMK Air Commuter	Dem. Rep. of Kongo	
Tracep	Dem. Rep. of Kongo	
Trans Air Cargo	Dem. Rep. of Kongo	
Traco	Dem. Rep. of Kongo	
Uhuru Airlines	Dem. Rep. of Kongo	
Virunga Air Charter	Dem. Rep. of Kongo	
Waltair Aviation	Dem. Rep. of Kongo	
Wimbi Diri Airways	Dem. Rep. of Kongo	
Air Consul	Equatorial Guinea	
Avirex	Equatorial Guinea	
Coage	Equatorial Guinea	
Ecuato	Equatorial Guinea	
Equatorial Cargo	Equatorial Guinea	
Geasa	Equatorial Guinea	
Getra	Equatorial Guinea	
Jetline	Equatorial Guinea	
KNG Transavia	Equatorial Guinea	
Prompt Air	Equatorial Guinea	
Utage	Equatorial Guinea	
International Air Services	Liberia	
Satgur Air Transport	Liberia	
Weasua Air Transport	Liberia	
Aerolift	Sierra Leone	
Afrik Air Links	Sierra Leone	

Airline	Country	Remarks
Air Leone	Sierra Leone	
Air Rum	Sierra Leone	
Air Salone	Sierra Leone	
Air Universal	Sierra Leone	
Destiny Air	Sierra Leone	
First Line Air	Sierra Leone	
Heavylift Cargo	Sierra Leone	
Paramount Airlines	Sierra Leone	
Star Air	Sierra Leone	
Teebah	Sierra Leone	
West Coast Airways	Sierra Leone	
African Intern. Airways	Swaziland	
Airlink Swasiland (aka SA Airlink)	Swaziland	
Jet Africa	Swaziland	
Northeast Airlines	Swaziland	
Scan Air Charter Ltd.	Swaziland	
Swasi Express	Swaziland	

Source: EU (2006b)

## Annex II:

Airlines subject to operational restrictions under the EU's 'blacklist'

Airline	Country	Remarks
Air Bangladesh	Bangladesh	only 747 with reg. S2-ADT banned
Ariana Afghan	Afghanistan	only A310 F-GYYY <u>not</u> banned
Buraq Air	Libya	4 IL-76 + 1 Let L-410 aircraft banned, reg.: UN-76007; 5A-DANN; 5A-DMQ; UN-76008; 5A-DMT.
Hewa Bora Airlines	Democratic Republic of Congo	only L-1011 9Q-CHC <u>not</u> banned

Source: EU (2006b)

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