Workshop
Air Transport, Air & Space Law and Regulation
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Dr. John Saba
Adjunct Professor
McGill University Institute Of Air & Space

AVIATION SAFETY
WORLDWIDE SAFE FLIGHT

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WORLDWIDE SAFE FLIGHT

We will discuss this topic in terms of **3 objectives.**

Objective 1:

Introduce the dilemma that exists for Airlines, States & the International Civil Aviation Organization [ICAO] in balancing aviation safety & security priorities.

Objective 2:

Outline some of the Risk factors of aviation crashes.

Explain how Developing/Less Developed countries have a much higher accident rate

AVIATION SAFETY
WORLDWIDE SAFE FLIGHT:

Objective 3:

Explain the GAP in Aviation Safety that exists between Developed & Developing/LDC countries

& the Regimes to Monitor & Police it

Objective 1:

Introduce the dilemma that exists for Airlines, States & the International Civil Aviation Organization [ICAO] in *balancing* aviation safety & security priorities.

September 11, 2001 Affects the Balancing of *Safety & Security*

- ➤ The air transport world's priorities were dramatically transformed after the tragic **World Trade Centre & Pentagon events** of **September 11, 2001**.

- ➤ The **United States Government's** launch of a **"War on Terrorism,"** resulted in **"security"** issues becoming air transport's main concern for many years

- ➤ The irony of this **"war"** is that it has compounded the **financial dilemma** of an industry already squeezed with **recession, declining traffic, high fuel costs, etc.**

War on Terrorism's Effect on The Industry

Distinguishing *SAFETY* & *SECURITY*

☐ **Since Sept. 11, 2001, many people use the terms** *"safety"* **&** *"security"* **synonymously.**

☐ **But while safety & security are sometimes considered to be** *"2 sides of the same coin,"* **there is a difference between the two words when it comes to air travel.**

...... WHAT is the difference? ......

Distinguishing *SAFETY* & *SECURITY:* DEFINITIONS

❑**Aviation *SAFETY* is the *BROADER* term.**
It refers to the efforts that are taken to ensure that aircraft, airports, airlines, air navigation systems, etc. are *free from factors that may lead to deaths, injuries or loss*

❑ **Aviation *SECURITY* is the *NARROWER* term**
& one important component that may affect passenger safety.
▪ It is not so much related to the **aircraft, airports, airlines, air navigation systems, etc.**,
But rather to **such matters as** intelligence gathering, pre-boarding procedures & aircraft &airport security personnel.

The **Regulation** of *BOTH Safety & Security* is designed *to avoid injuries & death to persons and damage to property*

☐ *SAFETY* regulation focuses on preventing *accidental* harm

☐ *SECURITY* regulation focuses on preventing *intentional* harm

Since September 11, 2001: Governments & international organizations have arguably directed disproportionate **Resources** *[& regulatory policies]* toward aviation **SECURITY**

Effect:
M*ore money* spent on **security**, often means *less money* spent ~~re,~~ as on aviation

Balancing *SECURITY & SAFETY:* A Role for ICAO

Conflicting Priorities

❖ **An unfortunate & unnecessary schism exists today between RICH & POORER countries in their *perceptions* of the crises in aviation "Security" & "Safety."**

❖ **This can partly be attributed to the different accident rates [to be shown in the *Next Objective*].**

❑ **Developed countries tend to prioritize aviation "security."**

❑ **Developing & Less Developed countries (LDCs) tend to attribute more importance to aviation "safety" issues**

Balancing *SECURITY* & *SAFETY:* A Role for ICAO

➢ A *United Nations specialized agency*, the International Civil Aviation Organization [ICAO], has tried to reconcile differing positions among its 190 developed & developing Member [Contracting] States in balancing both safety & security

➢ Our discussion today will study how ICAO performs its balancing role in respect to Safety.

Objective 2:

Outline some of the Risk factors of aviation crashes.

Explain how Developing/Less Developed countries have a much higher accident rate

DESPAIR

HOPE

OVERVIEW

1.Defining our Terms & a Little History
... Next Slides

2. Statistics & Anecdotal Evidence of Improving Aviation Safety Worldwide

3. Risk factors in causing crashes

have **stabilized** with a trend towards **improvement**

☐ **Let us look examine the SAFETY aspect recognizing that many *Developing & Less Developed Countries* pose a disproportionate risk of aviation accidents**

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Defining our Terms...

[Chicago Convention on International Civil Aviation, *Annex 13*]

Aviation accident: is an occurrence associated
with the *operation of an aircraft* that
takes place between the time any person boards the aircraft
intending to fly & the person has disembarked.
During this time the **person** is *fatally* or *seriously injured,*
the **aircraft** sustains *damage* or *structural failure*
&/or the **aircraft** is *missing* or is *completely inaccessible.*

Aviation incident: is an occurrence other than an accident,
associated with the *operation of an aircraft,*
that *affects or could affect the safety of operations.*

MORTdePILÂTRE DE ROZIER
ET DE ROMAIN SUR LA CÔTE DE BOULOGNE
1785.

A Little History:
Putting Things in Perspective

Since the birth of aviation,

aircraft have crashed, often with serious consequences.
This is because of the unforgiving nature of flight..

This Figure shows
the first known aviation fatalities--
the **deaths of Balloonists**
Pilâtre de Rozier &
Pierre Romain on **June 15, 1785**

A Little History: Putting Things in Perspective

The **1st powered fixed-wing aircraft fatality** in history occurred in **1908** when **Lt. Thomas Selfridge** was killed in this plane piloted by **Orville Wright** (September 17, 1908)

OVERVIEW

1. Defining our Terms & a Little History

2. **Statistics & Anecdotal Evidence of Improving Aviation Safety Worldwide**
   ☐ **Statistics**   **...** *Next Slides*

   ☐ **Anecdotal Evidence**

3. Risk factors in causing crashes

150,000+ flight crew   over 16,000 airplanes

240,000+ maintenance personnel

2. Statistics & Anecdotal Evidence of *Improving Aviation Safety* Worldwide

- **Plane crashes** with **large numbers of casualties** began with the initial passenger flights of the **1920s.**
- The yearly death toll of plane crashes **exceeded 100** for the first time in **1928 !!**

  It exceeded 1,000 for the first time in **1943 !!**
- **Since 1945**, the number of deaths annually in aircraft crashes has fallen **below 1,000** only in 3 years, in **2004 ..... 2007 ..... 2008**.

  …BUT aviation safety is still improving !!!!

This Figure shows:
The safety of aviation has improved since 1945

OVERVIEW

1. **Defining our Terms & a Little History**

2. **Statistics & Anecdotal Evidence of Improving Aviation Safety Worldwide**
   - ❑ **Statistics**

   - ❑ **Anecdotal Evidence ...*Next Slides***

3. **Risk factors in causing crashes**

ICAO Press Release, March 19, 2009

Trend

0

| 1945 | 1950 | 1955 | 1960 | 1965 | 1970 | 1975 | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 |
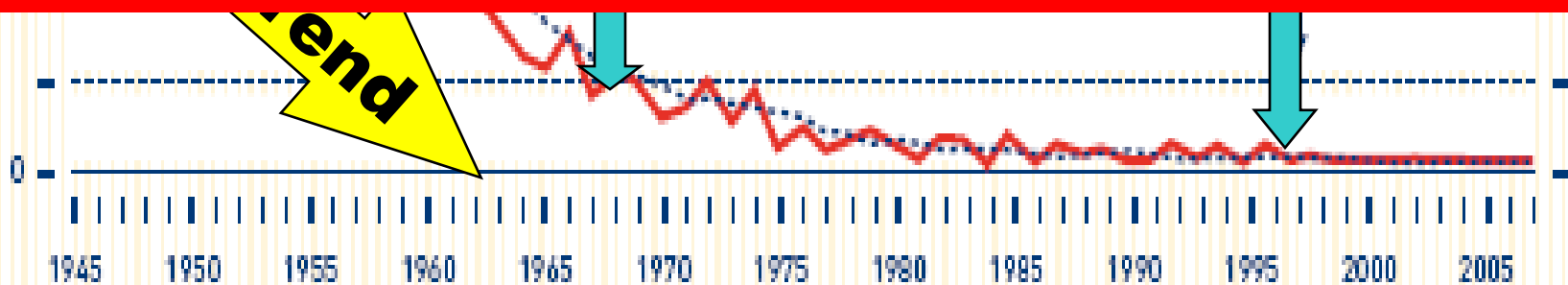
- Within 3 minutes of take-off the plane was in trouble.
- A loud bang came from close to the wings on both sides as the plane hit a flock of **geese**
- The Airbus A320 quickly lost power & dropped altitude, heading to the icy waters of the Hudson river
- The crew tried a ditching. There was slow contact with the water & the plane remained intact It rapidly stopped in the water.
- Several boats surrounded the scene
- Rescue crews pulled passengers from the plane

...at News .....
...with Fewer Fatalities

All of the people on board managed to escape alive !!

Some Great News .....
Planes are Crashing with Fewer Fatalities

US Airways - Airbus A320-214

at New York, N.Y. 15th January, 2009   Fatalities: 0
How the Flight Ended Happily .. Accident Photos

Aviation is *Safer* with Accident *risk factors*
Some Great News .....
Planes are Crashing with Fewer Fatalities

- 41 seconds after takeoff from Denver Airport, a bumping & rattling started & continued.

- 4 seconds later, a crew member noticed trouble & called for the takeoff to be aborted BUT the jet kept building speed down the runway.

- While the crew was braking, the jet veered off the runway, travelled down a ravine.

- The jet caught fire But all the occupants were evacuated.

- The aircraft suffered severe structural damage

The charter jet was approaching Trinidad when the engines suddenly lost power, possibly because of fuel

at News .....

with Fewer Fatalities

OVERVIEW

1.Defining our Terms & a Little History

2. Statistics & Anecdotal Evidence of Improving Aviation Safety Worldwide
❑Statistics
❑Anecdotal Evidence

3. Risk factors in causing crashes
... Next Slides

for injuries.

3. Risk Factors in Causing Crashes

CONTEXT

❖ *Industry & government safety* experts study ***accidents*** to identify BOTH ***chains of events*** [resulting in an accident] & ***"intervention strategies"*** for preventing the same kinds of accidents in the future

❖ **Chain of Events**

- Accidents in commercial aviation rarely result from a single failure or action.

- Accidents result from a ***combination of factors & a chain of events*** …..

Example: An **error** in **maintenance** may cause a *failure in flight* that a *flight crew member responds to incorrectly*

….. ***Remove any link in the chain & the accident is avoided*** ……

Accident of a Boeing 737-8F2 from Türk Hava Yollari Amsterdam, Netherlands February 25, 2009

3. Commercial Aviation: Factors affecting the Risk of Aviation Accidents

There are **6 key factors** affecting the **risk** of Avia

a. *Type* of Aircraft

b. *Age/Generat*

c. *Phase* of flig

d. PRIMARY Ca

e. *Scheduled* v.
   [e.g. Charter &

f. Operator/Airli

Factor (a) *TYPE* of Aircraft

Studies indicate that on *international scheduled passenger service,* the fatality rate for *jet aircraft* is <u>significantly lower</u> than that for *propeller-driven* aircraft.

Example:

Though **jet aircraft** represented about **98%** of scheduled service, in 2006, **62%** of airline accidents involved **turboprop aircraft**. Only **38%** involved **jet aircraft**

[airtransportnews.aero@11aviation.com-
April 5, 2007 edition: date accessed April 10,2007]

Factor (b): *Age/Generation* of the Aircraft

Studies indicate that on *international scheduled passenger service,* the fatality rate for *newer generation* jet aircraft is significantly lower than that for *older generation* aircraft.

Both the *aging* of the aircraft & *improved technology* of newer planes affect the accident rate

Source: BOEING Statistical Summary of Commercial Jet Airplane Accidents Worldwide 1959 -2005

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lents:

Date : 17th January, 2008
Airline : British Airways
Aircraft : **BOEING 777-236ER**
Location: London, UK
Fatalities:0 out of 152 aboard

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3. Commercial Aviation: Factors affecting the Risk of Aviation Accidents

We examine **6 key factors** affecting the **risk** of Aviation Accidents:

a. *Type* of Aircraft

b. *Age/Generation* of the Aircraft

c. *Phase* of flight

d. PRIMARY Cause

e. *Scheduled* vs. *Un-scheduled* [e.g. Charter & Cargo] Operators

f. Operator/Airline in *Developing vs. Developed* Country

Factor (c)   *Phase* of Flight

Descent, Approach & Landing is the most Dangerous flight phase

Crash of a
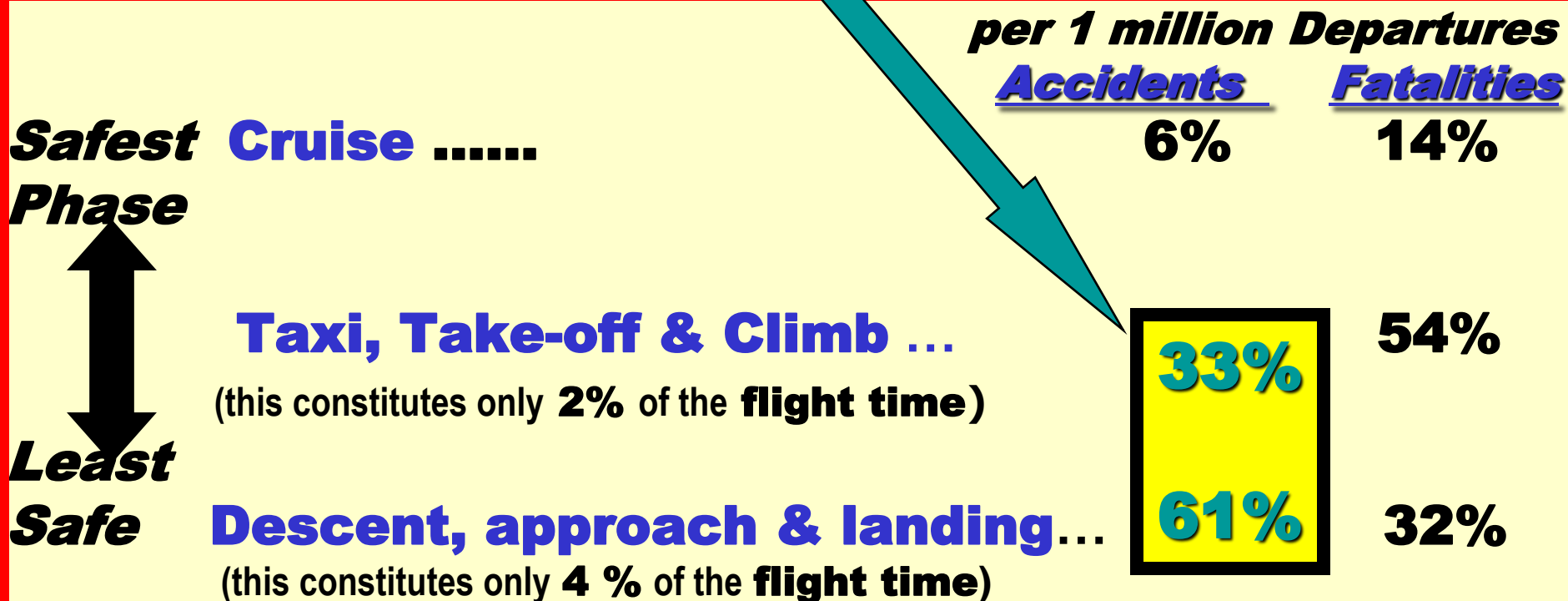Boeing 737-8F2 Aircraft
of *Türk Hava Yollari* Airlines
Amsterdam,
Netherlands
February 25, 2009

Factor (c)   *Phase* of Flight

- ❑ **Airplane travel consists of three (3) key phases**
- ❑ **Most accidents & fatalities occur relatively near an airport**

As shown below, **94%** of all aircraft **accidents** occur during the **taxi, take-off & climb** as well as the **descent, approach & landing phases** of the flight

	per 1 million Departures	
	Accidents	*Fatalities*
Safest **Cruise**	6%	14%
Phase		
Taxi, Take-off & Climb … (this constitutes only **2%** of the **flight time**)	**33%**	54%
Least Safe **Descent, approach & landing**… (this constitutes only **4 %** of the **flight time**)	**61%**	32%

BOEING Statistical Summary of Commercial Jet Airplane Accidents Worldwide 1959 -2007

We examine **6 key factors** affecting the **risk** of Aviation Accidents:

   a. _**Type**_ of Aircraft

   b. _**Age/Generation**_ of the Aircraft

   c. _**Phase**_ of flight

   d. PRIMARY Cause

   e. _**Scheduled**_ vs. _**Un-scheduled**_
      [e.g. Charter & Cargo] Operators
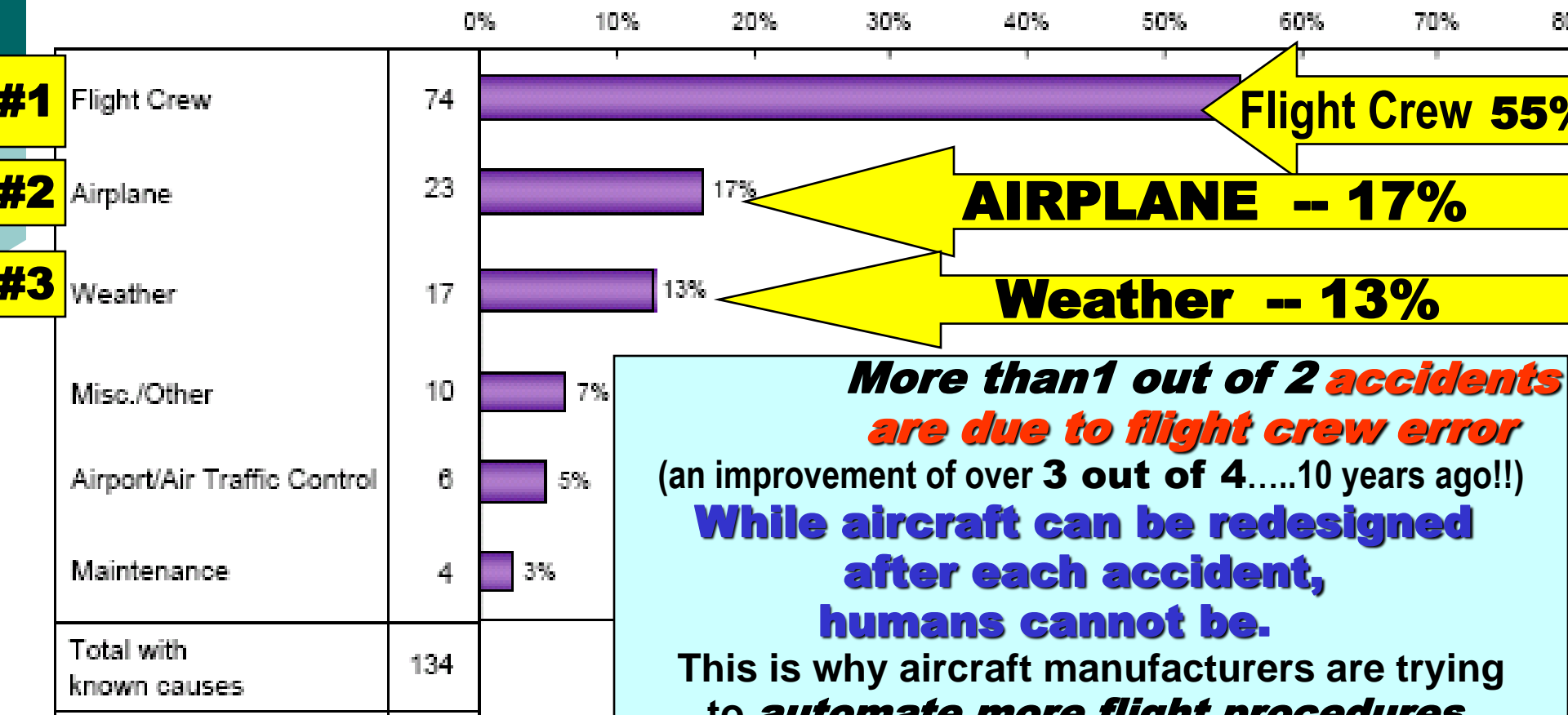
   f. Operator/Airline in _**Developing vs.**_
                           **Developed** Country

Accidents by Primary Cause*

Hull Loss Accidents – Worldwide Commercial Jet Fleet – 1996 through 2005

BOEING Statistical Summary of Commercial Jet Airplane Accidents Worldwide 1959 -2005

	Primary Cause	Count	Percent
#1	Flight Crew	74	**Flight Crew 55%**
#2	Airplane	23	17% — **AIRPLANE -- 17%**
#3	Weather	17	13% — **Weather -- 13%**
	Misc./Other	10	7%
	Airport/Air Traffic Control	6	5%
	Maintenance	4	3%
	Total with known causes	134	

More than 1 out of 2 accidents are due to flight crew error

(an improvement of over **3 out of 4**…..10 years ago!!)

While aircraft can be redesigned after each accident, humans cannot be.

This is why aircraft manufacturers are trying to *automate more flight procedures, functions & systems.*

Example: Where the

Causes
Pilot Error ??
Weather??

☐ **After a routine flight, the Dash 8 Q400 turboprop plane endured a 26-second plunge before smashing into a house.**

☐ **The plane slowed to an unsafe speed as it approached the airport, causing an automatic stall warning**

☐ **The Pilot pulled back sharply on the plane's controls & added power instead of following the proper procedure of pushing forward to lower the plane's nose to regain speed.**

☐ **He held the controls there, locking the airplane into a deadly stall.**

☐ **The plane's altitude was too low to exit the stall.**

☐ **The weather conditions at the time of the accident were not bad, but icing conditions prevailed.**

☐ **Ice accumulation on the plane has emerged as a possible contributor to the crash.**

Factor (d): PRIMARY Cause

Example: Where the *Pilot* & *Weather* were factors

Colgan Air - DHC-8-402 Q400 at Buffalo, NY, USA
12th February, 2009

How the Flight Ended

3. Commercial Aviation: Factors affecting the Risk of Aviation Accidents

We examine **6 key factors** affecting the **risk** of Aviation Accidents:

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e. _Scheduled_ vs. _Un-scheduled_ [e.g. Charter & Cargo] Operators

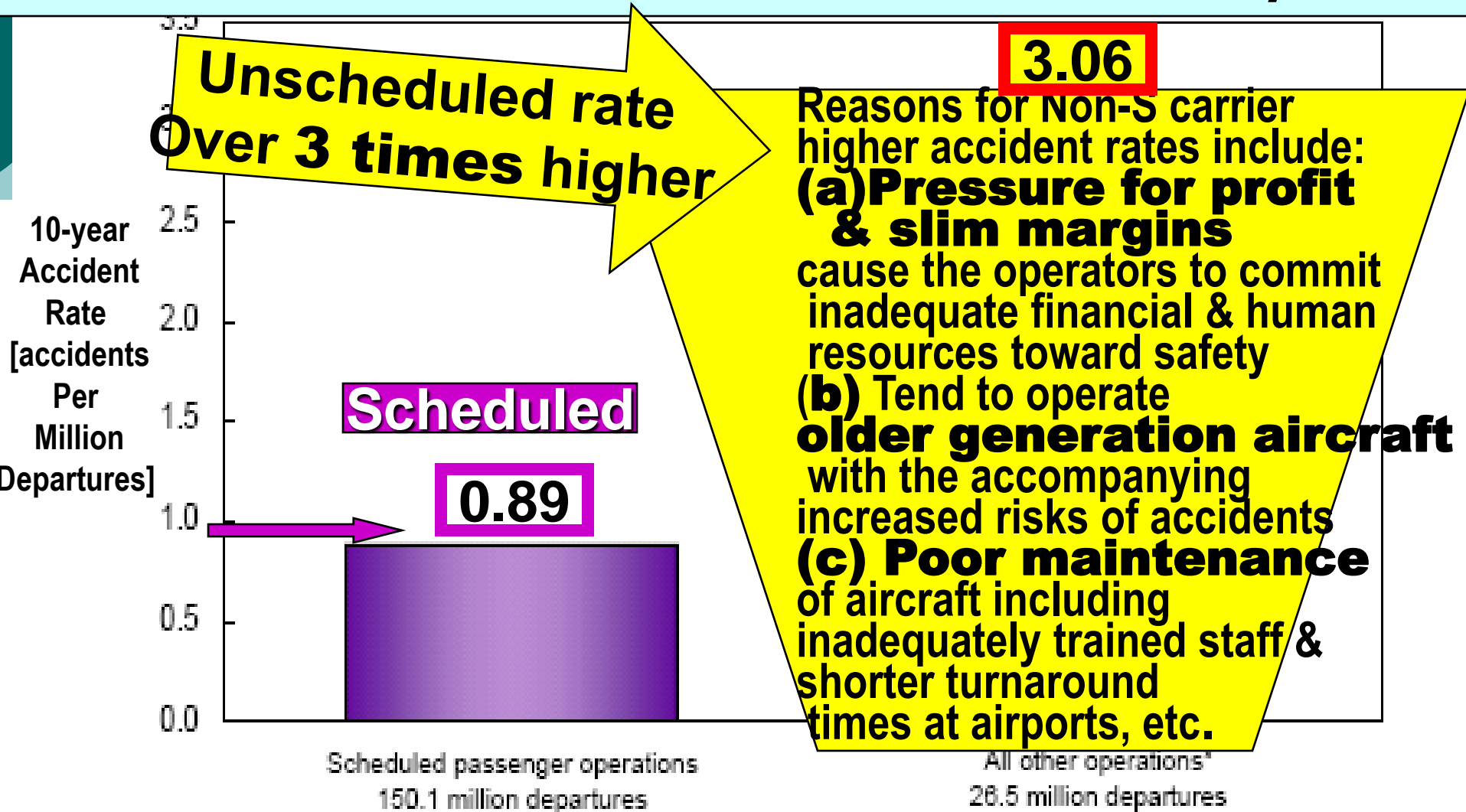f. Operator/**Airline** in _Developing_ vs. _Developed_ Country

Accident Rates by Type of Operation

Hull Loss and/or Fatal accidents – Worldwide Commercial Jet Fleet – 1996 through 2005

Factor (_e_): _Scheduled vs. Un-scheduled_ [e.g. Charter & Cargo] **Operators**

Un-Scheduled have accident rate > 3 times Scheduled operators

Unscheduled rate Over 3 times higher

3.06

Reasons for Non-S carrier higher accident rates include:
(a)Pressure for profit & slim margins cause the operators to commit inadequate financial & human resources toward safety
(b) Tend to operate **older generation aircraft** with the accompanying increased risks of accidents
(c) Poor maintenance of aircraft including inadequately trained staff & shorter turnaround times at airports, etc.

10-year Accident Rate [accidents Per Million Departures]

Scheduled

0.89

3.5

2.5

2.0

1.5

1.0

0.5

0.0

Scheduled passenger operations
150.1 million departures

All other operations*
26.5 million departures

3. Commercial Aviation: Factors affecting the Risk of Aviation Accidents

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e. *Scheduled* vs. *Un-scheduled*
   [e.g. Charter & Cargo] Operators

f. Operator/Airline in *Developing* vs. *Developed* Country

Now we turn to the factor that mostly concerns us

❑The **Developed regions** of **North America, Western Europe & Australia** have the *lowest* **fatal aviation accident rates**,

❑ **70% of aviation accidents occur in the Developing/LDC countries** when they account for only **15% of the aviation traffic**

❑ Airlines of **Eastern Europe & the Commonwealth of Independent States** have the **highest accident rate** (some almost **30+ times higher** than **Western Europe**)

❑ Airlines from **Africa, parts of Asia & Central/South America** have accident rates **many times the world average**

See Next Slide

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Regional Perspective: Fatal Accident Rates
[per 10 million scheduled flights]
Vary by Region of the World   2000 - 2007

ANOTHER WAY to compare

North American air carriers average about **2 million** flying hours per hull loss.

S. America, Central Africa & Asia average **350,000** flying hours per hull loss

Source: Flight Safety Foundation

We have just seen that many risk factors impact on aircraft accidents & ultimately **Aviation Safety.**

OUR FOCUS **now** shifts to the **6th factor** --
the **GAP in aviation safety**
between *Developed & Developing/LDC* countries.
We will examine, in terms of international law
& processes, how **aviation safety** is
being **monitored & policed** –
particularly in the *Developing & LDC world.*

Objective 3:

The **GAP** in **Aviation Safety** between Developed & Developing/LDC countries

& the **Regimes to Monitor & Police** it

Objective 3:
The GAP in Aviation Safety
between Developed & Developing/LDC countries
& the Regimes to Monitor & Police it

Overview:

We discuss this objective as 2 topics:

A. International Framework for Aviation Safety

B. STATE COMPLIANCE with International Aviation Safety Requirements

A. International Framework for Aviation Safety

Context: ICAO's Birth & SARPs

❑ The end of World War II saw the **Chicago Convention** create in **1944** the **INTERNATIONAL CIVIL AVIATION ORGANIZATION [ICAO]** as one of the **United Nations** specialized agencies. Today, ICAO has **190 contracting States.**

❑ **Overall Objective of ICAO:**

[as stated in the *Chicago Convention*]

To "*insure the safe & orderly growth of civil aviation throughout the world*" through *uniformity in law.*

ICAO Head Office: Montreal

Our concern is ICAO's goal *to promote safety of flight* in international civil aviation

☐ The **Chicago Convention** granted ICAO *Quasi-legislative* authority/power to **impose upon states international aviation safety obligations.**

☐ **ICAO exercises this power by promulgating,** *inter alia,* **standards & recommended practices [SARPs]** governing international aviation safety as *Annexes* to the Chicago Convention.

☐ **"Standards"**

are "any specification...the ***uniform*** application of which is recognized as necessary for the safety or regularity of international air navigation and to which Contracting States will conform...; *In the event of impossibility of compliance, notification to the Council is compulsory* under Article 38 of the Convention." ICAO Ass. Res. A1-31

Features of these *Standards*

1. MANDATORY standards.

[compared to *voluntary non-binding* **recommended practices**]

2. UNIFORM standards:
Member States are **obliged** to incorporate these **standards** [BUT not *recommended practices*] into their **domestic laws** with
"… the highest practicable degree of uniformity"
[Article 37, Chicago Convention]

such that they conform ….with those established under the Chicago Convention *[Article 12, Chicago Convention]*

3. Uniformity is encouraged by the Chicago Convention Annexes 1, 6 & 7 [respecting certifying *airmen, aircraft, & aircraft operators as airworthy & competent to carry out safe operations*] since the Annexes are drafted so as to facilitate their incorporation into countries' laws & regulations *without significant changes in wording*

Features of these *Standards... Continued*

4. PRESUMPTION

is that **member States' laws & regulations comply** with the **ICAO safety standards** *[Chicago Convention]*

5. Mutual Obligation to Recognize other contracting states' certificates

❖ *[Article 33* of] the Chicago Convention requires that

This **Mutual recognition obligation** only applies when a contracting state implements the SARPs *[Article 33, Chicago Convention]*
BUT: if a State fails to comply,
then other States are NOT obliged to *recognize the validity of the Certificates of Airworthiness*, etc.
issued by the delinquent State

such certificates or licenses were rendered are at least as stringent as those established under the Chicago Convention.

2 Options if State wants to *not comply with* ICAO SARPs

[& thus breach *Chicago Convention obligations*]

Option 1: "Opt out" clause

Obligation of States to be *Activist*

[*Article 38, Chicago Convention*]

❖ States have an obligation to **immediately notify ICAO** of **differences** between the SARPs in the Annexes & their domestic legislation

❖ The **ICAO Council** is then obliged *immediately to notify* **other States** of such noncompliance.

Option 2: Inaction

❖ Most states do not exercise their right to *object/"opt out"* under Article 38,

Most States *Do NOT Act*

EITHER because they agree to the standards imposed upon them

OR because their transport or foreign ministries lack a complete understanding of the obligations to which they have been subjected or of their duty to notify ICAO [*R.. Abeyratne*]

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EFFECTS of States Not Notifying ICAO

…of differences between their **domestic laws & regulations** and the **SARPs**:

❏ **SANCTIONs:**
There are *no explicit sanctions* [per the Chicago Convention]
BUT there are **4** *implicit sanctions* [with economic effects]

1. *Article 33, Chicago Convention*
A non-complying State may find its **pilot, aircraft, air carrier or airport certifications & licenses not recognized as valid by foreign governments.** Thus, it will be **forced to end operations** *to, from or through* foreign states.

2. Economically powerful States such as the **US** or the **European Union (EU)** may *blacklist* a country &/or its air carriers.   *Blacklisting* shortly

3. **Private sector insurance coverage** for **airlines & airports,** may be impossible to obtain

4. If the **proximate/legal cause** of an aviation accident is the failure of the government to comply with a SARP; therefore, the **delinquent government** would probably be **legally responsible/liable**

Paul Dempsey, "Blacklisting: Banning the Unfit from the Heavens"

Problem

❖**Over the years, ICAO & more diligent states, have discovered that often the standards [particularly SAFETY standards] prescribed by ICAO in its Annexes have not been adhered to by many countries.**

❖**Effect:**
This creates the challenge of finding ways by which contracting states that breach their *international aviation safety obligations* can be *persuaded, compelled* &/or *helped* to comply.

❖**We now review how international initiatives in aviation safety remain heavily dependent on State actions for effectiveness**

Objective 3:
The GAP in Aviation Safety
between Developed & Developing/LDC countries
& the Regimes to Monitor & Police it

Overview:

We discuss this objective as 2 topics:

A. International Framework for Aviation Safety

B. STATE COMPLIANCE with International Aviation Safety Requirements

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❑ "*The system of* **universal trust & mutual recognition** *established by the Chicago Convention was* **jeopardized** *[because]* **many States were not conforming to the SARPs.**"

[Dempsey, "*Blacklisting: Banning the Unfit from the Heavens*"]

❑ **2 key Problems** were & are apparent,
particularly among certain *Developing/LDC countries*:

- ▪ **Some states failed to comply** with their Chicago Convention obligation to promulgate laws & regulations incorporating the SARPs into their domestic legal regime

- ▪ **Some states** have **lacked the resources to implement** these obligations,
  even if the SARPs are incorporated in their domestic law

Next 2 Slides: 4 *Reasons* for these Problems

Challenges in Certain Less Developed Countries:

➢ **There are 4 major reasons** why such States may _lack the will, means, &/or ability_ to remedy their aviation safety deficiencies

1. Primary aviation legislation & regulations may be either _non-existent_ or _inadequate_

2. The Institutional structures that regulate & supervise aviation safety often _do not have the authority &/or independence_ to effectively satisfy their regulatory duties

STATE COMPLIANCE with International Aviation Safety Requirements

Challenges in Certain Less Developed Countries:

3. Human resources in many States may be plagued by a **lack of appropriate expertise** This is largely due to *inadequate funding & training of staff.*

[This results in the *poor maintenance & operation of airport & airline infrastructure*]

4. Financial resources allocated to *civil aviation safety* are **insufficient** since many developing/LDC countries do **not consider this a high priority** compared to other demands such as *health care, education, irrigation, & poverty*.

J. Saba, *WORLDWIDE SAFE FLIGHT: WILL THE INTERNATIONAL FINANCIAL FACILITY FOR AVIATION SAFETY HELP IT HAPPEN?* Journal of Air Law & Commerce

STATE COMPLIANCE with International Aviation Safety Requirements

ICAO's DILEMMA

❑ **ICAO was confronted with *states breaching* 2 international safety obligations:**

1ˢᵗ : a *failure* to incorporate the SARPs into their national laws & regulations

&/or 2ⁿᵈ : a *failure* to implement the SARPs.

2 APPROACHES Developed

to Respond to the Aviation Safety Deficiencies resulting from a failure of STATES to effectively incorporate &/or implement the SARPs nationally :

❑ ***APPROACH 1*: UNILATERAL Oversight of State Compliance by the US &/or EU**

❑ ***APPROACH 2*: INTERNATIONAL Oversight of State Compliance [by ICAO]**

safety deficiencies in   certain countries – particularly

STATE COMPLIANCE with International Aviation Safety Requirements

APPROACH 1:
UNILATERAL Oversight of State Compliance
A. US Safety Audits of *STATES* & *Categorization* system
B. EU Audits of *AIRLINES* & *Blacklisting* of Airlines

	US Approach	EU Approach
Focus on	STATES	AIRLINES
Blacklisting is based on..	The **US blacklist** [of *states*] is based on **FAA** inspections of **SARPs compliance** in the **State of registration.**	The **EU blacklist** [of *airlines*] is based mostly on **ramp inspections of aircraft landing in EU member states** [EU blacklisting program does *not* assess State compliance with SARPs]
EFFECT		

APPROACH 1:
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Let us turn first to the **US Approach i.e. IASA**

| | *airlines* get **blacklisted** if SARP breaches are found in the state | deficiencies are NOT the basis of this programme, **some of a country's airlines** may be blacklisted & others not |

US Safety Audits of *STATES* & Categorization system

Purpose of IASA

"To ensure that all foreign air carriers that operate to or from the U.S. are properly licensed and with safety oversight provided by a competent Civil Aviation Authority (CAA) in accordance with ICAO standards"

The FAA focuses on the foreign Civil Aviation Authority's capability to provide 2 services:

1. safety certification
2. continual oversight of its carriers

- Late 1990s: IASA determined that **over 40%** of the countries assessed had **insufficient oversight systems**.

1994: The FAA gave the IASA audits some enforcement consequences.

Sanction

Blacklisting

- The FAA stated that it would **publicly disclose the results of its audits**, & would classify countries into **3 categories.** [that subsequently has been reduced to **2 categories**]

The **operations** of those airlines registered in *noncompliant States* **were restricted**

i.e. an effective **blacklisting** of that State's airlines

☐ **Rationale** for **publicly announcing which States had deficient safety oversight:**

This would encourage/pressure states to increase their compliance with their legal obligations under the SARPs because a public announcement would financially hurt a state's airlines & tourism industry [by reducing passengers] .

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TODAY: The FAA presently classifies countries in which it has conducted safety audits into **2 categories:**

☐ **Category I** – States *in compliance* with the SARPs

☐ **Category II** – States *not in compliance*
with the SARPs on the basis that its CAA:

- lacks technical expertise, resources, & organization to properly license or oversee air carrier operations …. &/or

- does not have adequately qualified & trained technical personnel …. &/or

- does not provide adequate inspector guidance to ensure compliance with the SARPs…. &/or

- has insufficient documentation & records AND

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NOTE

This list is periodically updated.
The most recent updating was *December 18, 2008*

Since the last time that I checked the list [2 years ago]
5 countries were dropped off the list & 6 added.

- Democratic Republic of the Co...
- Gambia
- Ghana
- Guyana
- Haiti
- Honduras
- Kirabiti

- Nicaragua
- Paraguay
- Philippines
- Serbia and Montenegro
  (formerly Republic of Yugoslavia)
- Swaziland
- Ukraine
- Uruguay
- Zimbabwe

UPDATE LIST: http://www.faa.gov/safety/programs_initiatives/oversight/iasa/media/iasaws.xls
[Date accessed- April 8,2009]

STATE COMPLIANCE with International Aviation Safety Requirements

OVERVIEW

APPROACH 1:
UNILATERAL Oversight of State Compliance

❑ **US Safety Audits of *STATES*
& Categorization system**

❑ **European Union Audits of *AIRLINES*
& Blacklisting of Airlines**

European Union Audits of *AIRLINES* & Blacklisting of Airlines

❑ The **US** approach is to focus on **STATES.**
The **EU** approach is to focus on **AIRLINES**.

❑ **European Approach :** *BEFORE 2005*
Certain European countries **individually** *blacklisted* certain airlines from their skies.

Example 1: UK

UK had banned aircraft operated by **airlines** from:

- Equatorial Guinea
- Gambia
- Liberia
- Tajikistan
- Sierra Leone's *Star Air & Air Universal*
- *Cameroon Airlines*
- *Albanian Airlines*
- Democratic Republic of Congo's *Central Air Express*

Example 2: France

France had banned
- the US' *Air Saint Thomas*
- Liberia's *International Air Services*
- *Lineas Aer de Mozambique*
- North Korea's *Air Koryo*
- Thailand's *Phuket Airlines*

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European Approach: _TODAY_   _[AFTER 2005]_:

❑ The EU created the **blacklist** in response to several fatal **airline crashes** in Greece, Italy, & Egypt in **2004 & 2005**

❑ RESULT: 2005/2006

The **European Union** [representing its member states]

1st **promulgated regulations** governing _operating bans_ on **foreign carriers**
.... Regulation (EC) No. 2111/2005 (14 December 2005)

2nd issued a single EU list of blacklisted airlines
[to replace the independent lists of individual countries]
prohibited from flying in the EU.
In **2006**, the European Union banned 92
airlines,   the vast majority of them from
Africa.   The EU updates the list
every 3 months.

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European Approach TODAY:

The European Commission Website says the following:
[http://ec.europa.eu/transport/air-ban/list_en.htm: accessed on April 9, 2009]

❖ *"Effective aviation safety standards in Europe have rendered our safety record amongst the best in the world. Whilst the European Union & its Member States are working with safety authorities in other countries to raise safety standards across the world, there are still some airlines operating in conditions below essential safety levels."*

❖ "To *improve safety* in Europe further, the **European Commission** – in consultation with Member States' aviation safety authorities – has decided to ban airlines found to be unsafe from operating in European airspace."

❖ "These are listed in the document below.

- The first list includes all airlines **[totally] banned** from operating in Europe.

- The second list includes airlines which are **restricted** to operating in Europe **under specific conditions.**"

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STATE COMPLIANCE with **International Aviation Safety Requirements**

European Union Audits of ***AIRLINES*** **& Blacklisting of Airlines**

LIST 1: **LIST OF AIR CARRIERS OF WHICH ALL OPERATIONS ARE SUBJECT TO A BAN WITHIN THE EUROPEAN UNION**

The EU updates the blacklist every 3 months

[as of November 14, 2008..accessed April 9, 2009]

❑ In **Africa & Asia:** For each country, there is blacklisted BOTH Named airlines
& [in some countries] All [unnamed] *"air carriers certified by the countries' authorities with responsibility for regulatory oversight"*

BUT the number of named banned airlines in each country with unacceptable certification requirements are as follows:

❑ **AFRICAN** named banned airlines dominate this list
- over **65 carriers** from the **Democratic Republic of Congo**
- **17** from **Angola**
- **8** from **Gabon**
- **8** from **Sierra Leone**
- **10** from **Equatorial Guinea**
- **7** from **Swaziland**
- **All airlines** from **Liberia** [none named]

1 each from **Sudan** & **Rwanda**

Is the EU ban against airlines of countries like the Congo or Liberia an attack on unethical operators that register under *flags of convenience?*

Are not these carriers trying to circumvent commercial, safety, environmental, etc. regulations applied by more responsible states?

If so, is such *blacklisting* so terrible?

The EU has 2 categories in its Blacklist of Air Carriers:

... We just finished the 1st list ...

1. AIR CARRIERS OF WHICH *ALL OPERATIONS* ARE SUBJECT TO A BAN

... We now mention the 2nd list ...

2. The Carriers' OPERATIONS ARE SUBJECT TO *OPERATIONAL RESTRICTIONS* WITHIN THE EUROPEAN UNION

--- Bangladesh: 1 airline -- Air Bangladesh
--- Comoros: Air Service Comoros
--- Gabon....2 airlines

BASIS for the European *Blacklisting:*

❑ **The EU Regulation [Regulation (EC) No. 2111/2005] provides that:**

- **Bans are to be imposed on *a* case-by-case basis Each case involves evaluating "*whether the air carrier is meeting the relevant safety standards*".**

- **In turn, "*relevant safety standards*" is defined as requiring a higher standard than the ICAO SARPS because the air carrier must satisfy:**

BOTH the international safety requirements of ICAO's SARPs

+ the safety standards "*in relevant Community law*"

**This EU additional requirement goes beyond ICAO standards
This may violate the Chicago Convention.**

Some Criticisms of the US & EU Blacklisting Approaches

1. The blacklisting of a country's airports&/or airlines is an **"unfair trade practice"** often **economically benefiting US & EU carriers** **flying the routes where the banned country's airlines otherwise would fly.**

   This effectively targets Developing/LDC countries of Africa & Asia.

   [Dempsey: *"Blacklisting: Banning the Unfit from the Heavens*

2. The airline's newest/safest planes – that satisfy EU safety, environmental, noise, etc. requirements -- **will operate to the EU** [& other Developed countries].

   ■ *Older-generation* [e.g. Boeing 707s & 727s] & *more poorly maintained* aircraft will operate within the state of registration & to States without a blacklisting programme.

Some Criticisms of the US & EU Blacklisting Approaches

3. [IATA argues] Blacklists are a **punitive** measure ~~that will *not necessarily lead* to improved~~

We said earlier that
2 APPROACHES Developed
to Respond to the Aviation Safety Deficiencies resulting from a failure of STATES to effectively incorporate &/or implement the SARPs nationally:

We just finished….
❑ *APPROACH 1*: UNILATERAL Oversight of
State Compliance by the US &/or EU

Now we turn to ….
❑ *APPROACH 2*: INTERNATIONAL Oversight of
State Compliance [by ICAO]

APPROACH 2: INTERNATIONAL Oversight of State Compliance [by ICAO]
ICAO's USOAP

❑ **Initially:** The uniform international rules governing aviation safety [i.e. ICAO's SARPs] were supposed to create *uniform standards* & be *adopted universally* BUT: were *ignored by many countries*.

❑ **Result:** A **conflict** developed

Between the **powerful US** determined to *UNILATERALLY* investigate, expose & punish weaker states for failing to adhere to the SARPs

AND these **weaker targeted states** who argued that an *international* approach was preferred.

❑ *Consensus* was achieved that

- ▪ **States should comply with the SARPs**
- ▪ *BUT* the **oversight** [i.e. auditing & facilitating state compliance to the SARPs & imposing sanctions] should be *discharged* *internationally by ICAO* rather than **unilaterally** by a powerful country like the **US**

APPROACH 2: ICAO's Response

1994: ICAO's Safety Oversight Programme [*SOP*] was established

[by ICAO General Assembly's Resolution A32-11] with **2 goals**:

1. To **Audit** member States' aviation safety **regulation & oversight systems** to assess State compliance with the SARPs

2. To **Assist States** when compliance was deficient

❑ *Limitations:*

The SOP was *voluntary, under-funded* & *confidential*

- ICAO was *reluctant to publicize* the *names of states* that were delinquent in satisfying the SARPs

APPROACH 2: ICAO's Response ..*Continued*

1999: ICAO's Universal Safety Oversight Audit Programme [USOAP] [to replace the SOP] was established by the ICAO General Assembly with **mandatory & transparent** safety audits

❖ **The USOAP,** for a **3-year period** [starting Jan. 1999], performed **initial audits** of States to verify State compliance (i.e. effective implementation of the **SARPs**) **in 3 Annexes** respecting the *aircraft*:

- *Annex 1* (personnel licensing)
- *Annex 6* (flight operations)
- *Annex 8* (aircraft airworthiness including design, certification, & maintenance)

By 2004

ICAO had audited **181 States & 5 territories** for safety compliance & performed **120 audit follow-up** missions……….

There were many cases of **aviation safety deficiencies** resulting from *State non-compliance with the SARPs*

APPROACH 2: ICAO's Response ..*Continued*

EFFECTS of the USOAP audits

1. States responsible for non-compliance with SARPs: are deemed to have Notified ICAO of differences

2. ICAO has a large database of most contracting States respecting their compliance with **Annexes 1, 6 & 8.**

- The USOAP now is applied to the other safety-related Annexes including **Annex 11** (*Air Traffic Services*), **Annex 13** (*Accident Investigation*) & **Annex 14** (*Aerodromes*).

3. The results of the audits are available to all member States

Resolution: 35th session of the ICAO General Assembly, 2004

- They must be posted on the *secure* portions of **ICAO's Web site**

APPROACH 2: ICAO's Response …. *Continued*

EFFECTS of the USOAP audits:

4. The USOAP audit programme discovered many cases of *aviation safety deficiencies* resulting from *State non-compliance with the SARPs* including:

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- The failure of national laws to conform to the standards in the SARPs.

Let us turn to:

ICAO's recent *Whitelist* Approach

The deficiencies related to the SARPs included:

- ✓ improper & insufficient inspections by State authorities before the certification of air operators, maintenance organizations & aviation training schools
- ✓ licenses & certificates improperly issued, validated,& renewed without due process
- ✓ procedures & documents improperly approved

KEY *Overall:* failure to follow-up on identified safety deficiencies & take remedial action to resolve such concerns

ICAO White List

☐ **March 31, 2008:** ICAO started publishing its aviation safety **'white-list'** of states.

☐ **June 5, 2008:** All but 2 of the ICAO's 190 member states agreed that ICAO **may publish `the results of the organisation's USOAP programme** revealing the level of adherence to international aviation safety standards of their particular states' aviation authorities.

☐ **Not all results are flattering** [6 states are identified as having immediate safety concerns] BUT the **audit summaries are now transparent** & can be viewed by **ordinary travellers**

☐ **The principle has been established that as soon as the audit summaries have been prepared they will be published on the web.**

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ICAO White List

BENEFITS of this this "Whitelist" approach

❑**It provides an incentive to the 6 states that have** _not_
done so _to go public soon_**, or risk putting themselves**
on what could be construed as a _blacklist_ **by default.**

Let us turn to:

IATA's Operational Safety Audit [IOSA] Approach

❑**"Being aware of problems in various states**
& of the effective solutions developed to solve them,
can help other states correct their own deficiencies
identified under USOAP.

❑_Whitelisting_ **also makes it easier for states & donors**
to co-operate in providing assistance where needed,

❑_Whitelisting_ **helps the public make informed**
decisions about the safety of air transportation."

BENEFITS of this Programme

- ❏ **This is the industry's attempt to self-audit & thereby bypass repetitious inspections**

- ❏ *Uniformity:*
  **Since the IOSA standards comply with *current best practices* in the industry,
  all participants will be held to the same threshold.**
  High uniform standards required for IATA membership
  **BUT:
  IATA standards have no binding authority on non-members**

- ❏ *Costs:*
  **One "universal" audit will remove the need to spend airline resources for multiple inspections,
  thus keeping operating costs down**

- ❏ *Support* **internationally including approval from the United States, European Union, & ICAO**

- ❏ *Incentives:* **Compliance with IOSA opens up market incentives for carriers, including code-sharing, wet lease & aircraft leasing opportunities**

CONCLUSION

CONCLUSION
Why Help Remedy Aviation Safety Deficiencies in Developing/LDC Countries?

The USOAP, FAA & EU audits, blacklisting, etc. suggest:

- **Positively:** Many States [**Developed & certain developing countries**] have the means & have **remedied** their non-compliance after the audits

- **Negatively:**
  Many States, primarily **Developing & LDCs**, **fail to remedy** aviation safety deficiencies, due to a *lack of will, means* &/or *ability to do so* …They "*require assistance to do so*."
  Annual Report of the [ICAO] Council (2002)

- The serious difficulties in fulfilling safety oversight obligations apply to **specific States & regions** *disproportionately.*

FOCUS

There is a *direct* relationship between 2 factors:
the *higher* the *non-compliance to SARPs*
➡ the *higher* the *aviation accident & incident rates* in that region

CONCLUSION

**All States— Developed & Developing/LDC — have
2 important REASONS for *remedying the aviation
safety deficiencies of Developing & LDC countries***

> ## *Reason 1* :
> ## *Everyone* is at risk of aviation accidents *everywhere*

☐ **Civil aviation safety** is an **indivisible & global regime**
such that any *recognized aviation safety deficiency*
in **one country** *threatens the safety* of
the **entire global civil aviation system.**

☐ **Aircraft & aviation infrastructure safety deficiencies**
of **Developing/LDC countries**' may create
potential victims [& litigants] worldwide including:

  1. **Passengers & third parties on the ground** —
    irrespective of citizenship —are *at risk* of death or injury
    through aircraft accidents **anywhere in the world**

  2. **Developed country** *aircraft operators & citizens*
    fly internationally to developing/LDC country destinations

  3. **Developed country** *airports* *receive flights*
    from developing/LDC country aircraft operators

***Reason 2* : Global economic development is closely connected to a vibrant transportation industry.**

❑ **Global markets require fast & efficient transportation of** *not only* **perishable goods** *from developing/LDC* **countries to the** *developed* **countries,** *but also* **finished products** *sent from the developed* **to** *developing/LDC* **countries.**

❑ **The air transport industry & economic development depend on the confidence of the traveling public that air travel is safe.**

❑ **Tomorrow, in the *Aviation Safety Panel*, we will review some Existing & Proposed Approaches to remedy Aviation Safety Deficiencies in Developing/LDC Countries**

- **Happy Birthday, John**