

AVIATION: THE NEW ORDER

(Deregulation, The Environment, Health, Safety and Security)

By

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Naa Adoley Addy

**Robert Browning, Abt Vogler (After he has been Extemporizing Upon the Musical Instrument of his Invention) 1864*

Abstract

The aviation industry is in search of a new regime under which it will function at its best. The airline industry has been through various phases, it has evolved into an institution whose services are vital to the existence of the human race. The current dilemma facing the world is how to identify the specific regime, the perfect conditions that will permit this now indispensable industry to flourish.

To arrive at this solution, various aspects of the industry will have to be considered. In determining what the way forward should be, the very essence of airline transport must be laid bare. The industry will have to be classified, does it qualify as a global public good, or is it a mixed public/private commodity? What are the ill effects that this good has yielded as its by products? The aviation industry as a branch of global transportation will be examined in order to classify it. Methods of managing public goods effectively will be briefly considered. Following this will be an analysis of aviation development, the events preceding and following deregulation, the most significant player in the aviation world. Various perspectives and forms of regulation will be considered. References will be made to strict government regulation, deregulation and self regulation. This will lead to a consideration of other matters pertinent to the aviation industry e.g. health, safety, security, environmental aspects and how these should be managed.

The status of the industry prior to deregulation will be considered after which the era of deregulation will be discussed. The effects of deregulation on the commercial aviation industry will be stated, and the indices that appear to be necessary for an airline to survive under the current regime will be enumerated.

New and unexpected threats will have to be considered in the lights of the events of September 11, 2001. An analysis of all of the above it is hoped will give us some insight into current trends and developments in the aviation industry and this, it is hoped will influence the formulation of policy to manage the industry and nurture its development whilst protecting its patrons.

Resume

L'industrie du transport aérien est à la recherche d'un nouveau régime qui lui permettra de fonctionner du mieux qu'elle peut. Cette industrie a traversé diverses phases, elle est devenue une institution dont les services revêtent une importance vitale pour l'existence même de la race humaine. L'enjeu auquel est actuellement confronté le monde consiste à trouver le régime et la conjoncture parfaite qui permettront à cette industrie indispensable de prospérer.

Pour établir ce régime, il faut tenir compte des divers paramètres de cette industrie. Pour en déterminer l'avenir, il faut mettre à nu l'essence même de l'industrie du transport aérien. Il faut se demander si elle sert l'intérêt public mondial ou si au contraire elle est un produit mixte du secteur public/privé. Quels sont les effets négatifs que ce bien a eus sous forme de produits dérivés? Nous examinerons l'industrie du transport aérien comme élément des transports mondiaux pour pouvoir mieux la situer. Nous examinerons brièvement les modes de gestion efficaces des biens publics. Nous procéderons ensuite à une analyse de l'évolution du secteur, des événements qui ont précédé et suivi la déréglementation, et des principaux protagonistes du secteur de l'aéronautique. Nous envisagerons diverses perspectives et formes de réglementation. Nous nous pencherons notamment sur la réglementation et la déréglementation par l'État et l'autoréglementation. Cela nous amènera à étudier d'autres questions ayant un rapport avec l'industrie du transport aérien, en particulier la santé, la sécurité, la sûreté, les paramètres environnementaux et la façon de les gérer.

Nous étudierons la situation de l'industrie avant la déréglementation, avant de nous pencher sur l'ère de la déréglementation. Nous exposerons les conséquences de la déréglementation sur l'industrie de l'aviation commerciale et les éléments qui semblent nécessaires pour qu'une industrie du transport aérien survive en vertu du régime actuel.

Nous devons également tenir compte des menaces nouvelles et imprévues qui planent sur cette industrie à la lumière des événements du 11 septembre 2001. L'analyse de tous ces éléments devrait nous donner une certaine compréhension des tendances et des faits nouveaux dans l'industrie du transport aérien, ce qui contribuera à formuler une politique de gestion de cette industrie et d'alimenter son développement tout en protégeant ses clients.

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CHAPTER 1

INTRODUCTION

An aircraft in flight is a sealed and pressurized chamber, carefully monitored to ensure the comfort and safety of persons on board. The very nature of the cabin environment, sets the stage for security, health and safety threats to persons on board.¹ Any punctures in the body of the aircraft will completely alter the settings and endanger the lives of persons on board. Once the aircraft pressure becomes uncontrollable and gravity and other forces take over the control of the machinery, the pilot can do very little to avert the disaster that will follow; a crash following which there may not be any survivors.

The above is simply to illustrate that aerospace transport has its own peculiarities. For which reason it is absolutely essential that safety and security should be enforced strictly so as not to increase the chances of harm being caused to persons on board and maintain passenger confidence.² This paper will attempt to provide insight into some of the current issues being dealt with globally in the commercial aviation sector; focusing on deregulation, security, health and safety. Potential threats to national security³ brought about by foreign investors as well as issues involving the violation of personal freedoms will be touched upon. Suggestions to alleviate and perhaps prevent these negatives will be considered. The concluding portion will consider the direction of airline regulation/deregulation; whether there is going to be increased regulation, self-regulation or additional deregulation.

The hope that international cooperation could facilitate the peaceful development of international air travel, and provide services to passengers without fear or threat led to the drafting of the 1944 Chicago Convention on International Civil Aviation. The preamble to the convention provides as follows:

¹ Department for Transport, Local Government and the Regions, *Health in Aircraft Cabins - Stage 2* Published 4 September 2001

² National Business Travel Association; Press Release NBTA Response to President Bush's Security Proposal *Calls for Broader Reforms and Federalization of Security Process*, Alexandria, VA September 27, 2001

³ APEC Center for Technology Exchange and Training for Small and Medium Enterprises; Investment Policies and Implementation; www.actetsme.org/usa/ipiusa.html

*“ WHEREAS the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security; and
WHEREAS it is desirable to avoid friction and to promote that cooperation between nations and peoples upon which the peace of the world depends;
THEREFORE, the undersigned governments having agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically...”*

Have accordingly concluded this Convention to that end.

.....
The Air transport industry is that area of commerce that uses aircraft to transport people, cargo and mail⁴ from one point to another. Due to its international nature, regulation of air transport has been defined to include both the regulation of national as well as foreign persons and entities, undertaken by a state within its territory in its exercise of sovereignty over that territory and the airspace above it. It extends to cover national as well as foreign air carriers. From the inception of the industry, the right of a foreign aircraft to land in another states territory was to be granted expressly; usually through a bilateral air service agreement.⁵ Some of the factors taken into consideration were national security, potential for profits, protection of domestic business⁶ among others. To this effect, Article 6 of the Chicago convention provides as follows:

“...No scheduled international air service may be operated over or into the territory of a contracting State, except with the special permission or other authorization of that state, and in accordance with the terms of such permission or authorization...”

⁴ John W. Harlman, 'Brief History of the US Airline Industry' Center for Sales, Advertising and Marketing History, A project of the Digital Scriptorium Rare Book, Manuscript, and Special Collections Library, Duke University URL: <http://scriptorium.lib.duke.edu/adaccess/>
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⁵ Chicago Convention Article...

⁶ Anna Maria Mayda, Dani Rodrik, 'Why Are Some People (and Countries) More Protectionist Than Others?', NBER Working Paper No.w8461, issued in September 2001

The above quoted clearly shows that there will be no international air travel without government regulation. In order to better appreciate the current state of the aviation industry and draw appropriate conclusions about its development, the very nature of regulation must be examined. According to the ICAO⁷ manual on the Regulation of International Air Transport, regulation is;

“the giving of authoritative direction to bring about and maintain a desired degree of order...”

The term regulation, encompasses many situations. It describes a complex set of activities that affect virtually every business and individual in some way.⁸ Regulation is not static or permanent; previously regulated activities may be deregulated, and formerly unregulated activities may require regulation at a later date. Any regulatory system consists of the following three components - legislation, licensing and authorization. When one becomes a member of a society, he parts with some rights or privileges which as an individual not affected by his relation to others he might retain. Regulation can thus be said to be a form of social compact, that all shall be governed by certain laws for the common good.⁹ This does not confer upon the whole, the right to control rights which are exclusively private.¹⁰ It does however authorize the establishment of laws requiring each citizen to so conduct himself and use his property in such a manner so as not to unnecessarily injure another. This has been said to be the very essence of government and has found expression in the maxim *sic utere tuo ut alienum non loedas*. Under the power to govern, the government regulates the conduct of its citizens one toward another and the manner in which each shall use his own property when such regulation becomes necessary¹¹ for the public good.¹²

“ Important forms of public transportation must be regulated by the government. That has been accepted as a sound principle in this country and ... in practically every

⁷ International Civil Aviation Authority

⁸ Jeffrey L. Harrison, Thomas D. Morgan, Paul R. Verkuil, 'Regulation and Deregulation Cases and Materials' American Casebook Series, West Publishing Co. College & School Division / August 1997

⁹ From the Preamble of the Constitution of Massachusetts

¹⁰ Thorpe v. R. & B. Railroad Co., 27 Vt. 143

¹¹ James Madison, *The Federalist*, No. 51, © 1996 The Avalon Project at the Yale Law School, <http://www.yale.edu/lawweb/avalon/federal/fed51.htm>

¹² Waite, C.J., *Munn v. Illinois*, 94 U.S. 113, 1876 (Supreme Court)

country in the world ... Transportation is of such vital importance to the public welfare and the business is so affected with the public interest that some measure of government regulation is necessary”¹³

Transportation has become necessary for the continued existence of the world order, hence though it is not only provided by states, it will continue to be influenced by laws and regulations made by states because ‘common carriers exercise a sort of public office, and have duties to perform in which the public is interested.’¹⁴ The question now arises as to the principles upon which the powers to regulate industries and businesses are based. Is regulation to be restricted to public goods alone or is it applicable to private endeavors? According to Lord Chief Justice Hale in his treatise *De Portibus Maris*¹⁵, when private property is “affected with a public interest it ceases to be *juris privati* only.” Property becomes clothed with public interest when used in a manner to make it of public consequence. When therefore one devotes his property to a use in which the public has an interest he in effect grants to the public an interest in that use and must submit to be controlled by the public for the common good, to the extent of the interest he has created. He may withdraw his grant by discontinuing the use; but so long as he maintains the use, he must submit to the control. This principle is clearly illustrated by the case of *“Nebbia v. New York.”*¹⁶ In that case, the Legislature of New York established a Milk Control Board with the power among other things, to fix minimum and maximum retail prices for milk. The board fixed nine cents as the selling price for a quart of milk. Nebbia, the proprietor of a grocery store in Rochester, sold two quarts of milk and a 5 cent loaf of bread for 18 cents and was convicted for violating the courts order. The question was whether the state could fix the selling price of milk produced from non-state owned farms, whether the state could actually control prices in a private enterprise setting.

In arriving at a decision on this matter the following issues had to be considered. The

¹³ Regulation of Transportation of Passengers and Property by Aircraft, Hearings on S.2 & S.17 before a Subcommittee of the Senate Committee on Interstate Commerce, 75th Congress, 1st Session 67(1937) [subsequently cited as Senate Hearings on S.2 and S.1760]

¹⁴ *New Jersey Nav. Co. v. Merchants' Bank*, 6 How. 382

¹⁵ 1 Harg. Law Tracts, 78

¹⁶ United States Supreme Court, 1934. 291 U.S. 502, 54 S. Ct. 505, 78 L. Ed. 940

fluid milk industry like the aviation industry, is affected by factors of instability peculiar to itself which call for special methods of control. Airlines, like milk sales-men, sell a product that is instantly perishable¹⁷. The value of an unsold seat is lost on take-off. It cannot be warehoused and sold another day as can preservable manufactured goods. "It is as if a grocer was selling groceries with the spoilage properties of open jars of unrefrigerated mayonnaise. The grocer would be forced to have a fire-sale every afternoon, for any unsold inventory would have to be discarded."¹⁸ A close adjustment of supply to demand is therefore needed in the industry and a satisfactory stabilization of prices required to ensure that the burden of surplus milk is shared equally by all producers and distributors. Indulgence in price cutting by one dealer would necessarily compel others to cut prices to their detriment.

The court argued that the constitution does not guarantee unrestricted privileges to individuals to engage in private business or to conduct it as one pleases. Certain kinds of businesses are prohibited;¹⁹ and the right to conduct business may be conditioned, hence the existence of legislation forbidding unfair business practices. The legislative investigation of 1932 was persuasive of the fact that unrestricted competition could aggravate existing evils, and the normal law of supply and demand was insufficient to correct maladjustments detrimental to the community. Even though the dairy industry is not in the normal sense a public utility, it is subject to regulation in the public interest and no constitutional principle bars the state from correcting ills by price control legislation.

Many decisions have shown that being privately owned or operated, does not necessarily remove a business from the realm of regulation,²⁰ and statutes prescribing the terms upon which those conducting business may contract, are within the state's competency. Regulatory control may be unconstitutional only if arbitrary,

¹⁷ Paul Stephen Dempsey, Andrew A. Goetz, 'Airline Deregulation and Laissez Faire Mythology' *supra*.

¹⁸ Paul Stephen Dempsey, 'The Empirical Results of Deregulation: A Decade Later and the Band Played On', 17 *Transportation Law Journal*, 31-100 (1988)

¹⁹ President Bill Clinton signed the Gramm-Leach Bliley Act, into law on November 12, 1999. The Act repeals the 66-year old Glass-Steagall Act, which prohibited banks, securities firms and insurance companies from affiliating.

²⁰ The World Bank Group; Governance and Public Sector Reform, 'The Role of The State' <http://www1.worldbank.org/publicsector/pe/rolestat.htm>

discriminatory or demonstrably irrelevant and an unnecessary interference with individual liberty. The constitution does not allow anyone the liberty to conduct his business in such a way as to injure another or inflict injury on the public and the Agriculture and Market law was thus upheld, taking into consideration the fact that '...Indeed, there is no end of regulations with respect to the use of property which may not be legitimately prescribed, having for their object the peace, good order, safety, and health of the community, thus securing to all the equal enjoyment of their property; but in establishing these regulations it is evident that compensation to the owner for the use of his property, or for his services in union with it, is not a matter of any importance:... But I deny the power of any legislature under our government to fix the price which one shall receive for his property of any kind.'²¹ Regulatory supervision for the provision of essential services such as transportation can thus be defended but this must be done in such a manner as not to infringe upon the rights and benefits of the service provider.

Air transport remains the most glamorous form of travel and according to Paul Dempsey, the commercial airline industry carries 12.5 billion passengers and 22 million tons of cargo, about a quarter of the world's manufacturing exports based upon value.²² Unlike other known means of travel, air travel combines comfort with speed. Passengers are lured with promises of luxury and comfort, expediency and reliability.²³ The expediency has not been lost but the glamour and comfort may have been sacrificed through commercialization which has brought about significant changes; lower fares²⁴ more passengers,²⁵ crowded airports,²⁶ cramped seating,²⁷ and a reduction in on-board

²¹ Munn v. Illinois, 94 U.S. 113, 1876 (Supreme Court) dissenting opinion of Justice Field.

²² 'Economic Benefits study Revisited', ICAO Rev. (Feb. 1994) a. 19

²³ Delta Connection to Add Regional Jets at Florence, S.C. Press Release, source: Delta Air Lines, Inc Thursday January 10, 2002

²⁴ 'Full European Airline Regulation Nears, Posing Travel Management Challenges to U.S. Firms Lower Prices, Volatile Faring and Service Changes Predicted; New Travel Cost Control Strategies Urged for U.S. Firms', New York, March 26, 1997, Copyright (c) 2000 American Express Company.

²⁵ Anming Zhang, 'Industrial Reform and Transport Development in China', Occasional Paper # 17, November 1997, Department of Economics, University of Victoria, Victoria BC Canada

²⁶ Kristin Clifford, 'Seeking a Solution to Crowded Airports', The Daily Illini, Friday September 7, 2001

²⁷ Professor Alan Hedge, PhD, 'Back Care on Airplanes', Director Human Factors and Ergonomics Laboratory, Cornell University Department of Design and Environmental Analysis Ithaca, NY <http://ergo.human.cornell.edu> or www.spineuniverse.com

services.²⁸ This piece will attempt to depict the situation of the aviation industry prior to deregulation. The relevant rules and regulations as well as the procedure for licensing carriers will be stated. This will be followed by the situation after governments relaxed restrictions to encourage private participation. The effects of deregulation on the traveling public and the global economy will then be considered. It is noted with regret however that a large number of airlines did not survive in the deregulated environment²⁹ and reasons for their demise will be stated. References will also be made to other issues that have gained prominence in the aviation industry such as economy class syndrome, terrorism and unruly behavior among others. The regulatory and control processes for the industry will be discussed, some gaps and loopholes in the existing regulatory framework/system may be touched upon and an attempt will be made to determine whether these are in anyway linked with deregulation. The concluding portion will focus on lessons learnt, new and innovative ideas and recommendations to help make the airline industry a buoyant one. Cognisance will be taken of the fact that the airline transport industry is a global public good,³⁰ its benefits and ill effects spill over boarders.³¹ As such it should be provided in as safe a mode as possible so as not to defeat its purpose, ruin passenger confidence and negatively affect its patrons

²⁸ Dr. Susana Corradetti, 'The impact of the privatization of public sector enterprises on labour relations and conditions of work and employment in the air and land (rail) transport sector', Symposium on the Social and Labour Consequences of Technological Developments, Deregulation and Privatization of Transport, Discussion Paper No. 2 Geneva, 1999 International Labor Organization. The present paper is derived from a broader study of this topic which is being prepared by the author in collaboration with Dr. Ricardo Foglia and Dr. Carlos Alfonso Tomada. Geneva, July 1999.

²⁹ Carol B. Hallett, President of Air Transport Association, Remarks to Erasmus University Business Week 1998 On Global Competition in the Airline Industry - Deregulation 101, Rotterdam, The Netherlands, March 30, 1998

³⁰ Air Transport and the Environment Minutes of 07/09/2000 - Provisional Edition European Parliament resolution on the communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions - Air Transport and the Environment: 'Towards meeting the Challenges of Sustainable Development' (COM(1999) 640 - C5-0086/2000 - 2000/2054(COS))

³¹ Michiel van Weele, Dominik Brunner, Hennie Kelder, Ernst Meijer, Veerle Pultau, Peter van Velthoven, Wial Wauben, 'Measuring and modelling the effects of aviation on the atmosphere', Koninklijk Netherlands Meteorological Institute, KNMI 1999 <http://www.knmi.nl/onderzk/atmosam/aviation.html>

CHAPTER 2

GLOBAL PUBLIC GOODS AND LIBERALIZATION

*"...the concept of global public goods is a powerful one. It helps us think through the special responsibilities of the international community...global public goods provide a central rationale for international collective action"*³²

Public goods produce benefits enjoyed by all. These are goods and services, necessary for human existence e.g. electricity and water. They are non-rival,³³ that is to say the consumption of the good by one person does not detract from another's utilization. Additionally they are not limited by national boundaries. Global public goods cover global issues that range across the whole spectrum of world development, from the global environment, international financial stability and market efficiency to health, knowledge, peace, security and human rights.

Transportation like several other essential facilities has been referred to as a public good. Proponents of theories about public goods have maintained that owing to their very nature, their provision should be monitored for the benefit of all, or regulated to ensure that they do not become mere profit making ventures because trade and financial markets are good at generating wealth, but cannot address other social needs.³⁴ Current trends in the aviation industry, including the demise of numerous airlines, bankruptcies, mergers, buyouts and other similar arrangements have prompted a consideration of the methods by which Global Public goods have been managed. Many of these failures are the result of a lack of positive policy choice. Is it possible that the world has failed to develop and implement policies to ensure the adequate provision of global public goods? In order to answer the question correctly, the channels for producing and distributing public goods must be examined. These mechanisms are not always public goods themselves. The implication then is that there may be some degree of private participation

³² Stiglitz J. E., (1999) 'Knowledge as a Global Public Good', Previous World Bank Senior Vice President and Chief Economist
<http://www.worldbank.org/knowledge/chiefecon/articles/undpk2/>

³³ Le Monde Diplomatique, 'GLOBAL PUBLIC GOODS: A NEW WAY TO BALANCE THE WORLD'S BOOKS' June 2000,
<http://mondediplo.com/2000/06/15publicgood>

³⁴ George Soros, 'Global Public Goods: The Missing Component', Project Syndicate, October 2001, Soros Fund Management LLC, <http://www.globalpolicy.org/soecon/ffd/1001soros.htm>

involved. It is therefore necessary, because of the non-rival³⁵ nature of such goods, for the public sector to intervene in specific situations to monitor quality or guarantee adequate provision.³⁶ The difficulty associated with maintaining the quality of public goods derives from the benefits that people derive from them. The fact that in principle every member of the public can derive benefits from the provision of a global public good does not necessarily imply that all people derive the same value or respond to a Global Public Good the same way. Some will always derive more utility from public goods than others. The development of an effective regime for the provision of a public good may not carry the same value over the world.³⁷ For example, industrialized countries, seeking to maintain financial stability may invest in tighter financial supervision and regulation of currencies and investors. They may take action to encourage other countries to do the same. However developing countries may be overburdened by other issues and may feel that greater utility would come from dealing with more immediate domestic priorities e.g. health, food and education, and may thus not participate with the same level of commitment. Developed countries may see the need to, and be willing to invest heavily in noise reduction equipment and aircraft, whereas developing countries, currently focused on acquiring functional equipment may argue that their markets are not sophisticated enough to demand noise reduction. Whereas in the western world, residential areas close to airports have depreciated in value, the same cannot be said to be the situation in developing countries, actually the opposite is true. These are the some complex issues that burden the provision of public goods.

Traditionally it has been seen as the role of the state, to offer and manage the provision of national and global public goods. This does not seek to imply that other stakeholders

³⁵ Adrian Hewitt and Oliver Morrissey Overseas Development Institute, 'Pro-Poor International Public Goods' Summary of meeting held at ODI 15th November 2000

³⁶ De Montford University, England, 'The Economic role of the State in Market Economics', Leicester, Bedford, Milton Keynes Department of Public Policy, www.dmu.ac.uk/~pel/P&P/pplec2.pdf

³⁷ Marco Ferroni, 'A New Frontier in Global Cooperation; Financing International Public Goods - The Case of Health Research' Global Forum for Health Research, In September 1996, the Ad Hoc Committee on Health Research Relating to Future Intervention Options published its Report under the auspices of the World Health Organization. One of the seventeen recommendations made by the Committee to help correct the 10/90 gap was the creation of the Global Forum for Health Research. The Global Forum for Health Research, an independent international foundation, was established in Geneva in June 1998. The Global Forum's central objective is to help correct the 10/90 gap by focusing research efforts on diseases representing the heaviest burden on the world's health and facilitating collaboration between partners in both the public and private sectors.

http://www.globalforumhealth.org/Non_compliant_pages/forum3/Forum3doc51.htm

should not be involved. Such varied groups can play a direct role in identifying, providing and allocating the benefits from public goods. By participating in the development of policies on issues of environmental sustainability, harmonization of trading rules and legal frameworks for their provision.

The non recognition of a public good can lead to under provision,³⁸ poor quality or over supply of “public bads”³⁹ as by products, (e.g. chloro-fluoro-carbons and the negative impact they have on the ozone layer, which reduces the risk of cancer.) Any important public utility industry requires regulation in the public interest and will be regulated sooner or later⁴⁰ to guarantee adequate availability. To ensure that all countries derive the utmost from public goods, it is essential that policies be systematically designed through open discussion and informed decision making processes. Public goods once they are provided, can be enjoyed by all, examples being law and order, clean air and street names.⁴¹ Various management and administrative methods have been employed to supervise the provision of public goods. Over the last few decades, deregulation and liberalization have been heavily relied upon for the provision of essential services.

When public necessities are converted into business ventures the following may happen; scarcity may materialize, because private entrepreneurs cut costs of production by producing less. In the alternative, there may be over production or excess capacity, there may also be sufficient supply but at unaffordable prices to the consumer. In the aviation industry this has seriously affected security and safety checks, putting the lives of passengers at risk. Privatization has the potential of turning the operator into the regulator, giving him the opportunity to set his own standards which may be below acceptable requirements, so as to minimize expenditure. The desire of the private

³⁸ Joseph Stiglitz, 'Knowledge as a Global Public Good', 1999. In Inge Kaul, Isabelle Grunberg, Marc Stern, editors, 'Global Public Goods; International Cooperation in the 21st Century', Oxford: Oxford University Press

³⁹ Inge Kaul, 'Global Public Goods, The Missing Link in Policy Making' United Nations Development Program, Office of Development Studies, June, 2001, New York. In the paper examples are mentioned; excessive financial volatility; new diseases; international terrorism; pollution; and explosive inequity, threatening to tear apart the global social order.

⁴⁰ House Hearings on H.R. 5234 & H.R. 4652 before the House Committee on interstate and Foreign commerce, 75th Congress, 1st Session 53 (1973)

⁴¹ Inge Kaul, Isabelle Grunberg and Marc A. Stern: 'Global Public Goods, International cooperation in the 21st Century' Oxford: Oxford University Press

business man to accumulate wealth may conflict with society's desire to accomplish other important objectives e.g. enhancing safety and promoting the provision of services in rural communities. It may lead to destructive competition which was defined by the Civil Aeronautics Board as a competitive situation in which;

- (i) a powerful competitor seeks to drive rivals out of a market through the utilization of predatory tactics with the hope of securing monopoly profits after they exit or
- (ii) all competitors operate at a price that consistently fails to meet the costs of even the most efficient.⁴²

This in turn undermines the financial stability of the service provider and in the case of the aviation industry, jeopardizes the maintenance of transportation facilities as a means of cutting costs. This kind of rivalry often results in failure for the weaker competitors.⁴³

It is appreciated that all societies need public goods to function effectively. It is also obvious that in the attempt to provide these services in a free market economy, capacity may be offered at prices at which there is no demand, competitors will suffer losses⁴⁴ which could in turn reduce the industry's profits and lead to a deterioration in service quality. The opposite of the above could also happen. When the product is a public necessity, consumers lack the effective means to shop around consumers may have few choices, prices may go up,⁴⁵ people will be obliged to pay higher prices for services.⁴⁶ It has also been stated that airlines depend on public facilities such as airports to operate and this has been cited as one of the reasons why they need to be regulated,⁴⁷ to foster growth and ensure long term viability of the industry.

⁴² Oakland Services Case, CAB Order 78-4-121 (1978)

⁴³ Bev Desjarlais, NDP Minority Report on the Restructuring of Canada's Airline Industry. 'Modern Regulation in the National Interest' MP Churchill, NDP Transportation Critic from the Parliamentary Internet website <http://www.parl.gc.ca/InfoComDoc/36/2/TRAN/Studies/Reports/tranrp01/18-ndp-e.htm>

⁴⁴ Oakland Service Case, CAB Order 78-4-121 (1978) at 25

⁴⁵ Kathi Jean Ali'varius, 'Hitting a Moving Target: Setting Price Amid Uncertainty', The George Washington University, Virginia Campus, The Aviation Institute, January 1999

⁴⁶ British Columbia Federation of Labour, 'Privatization The Culprit in Natural Gas Prices Crisis', <http://www.bcfed.com/about/focus/gaspriv.htm>

⁴⁷ Robert Kuttner, 'If You Took An Airplane Recently, You Know Deregulation's A Loser' August 28, 2000- Boston Globe.

In the short period since deregulation, several significant changes have taken place within the industry. These include the entry of new operators, expansion of markets and discount fare offers among others.⁴⁸ Deregulation has however brought about many unexpected developments. Without states and governments policing the skies, big and strong airlines have bought-out or driven out most newcomers.⁴⁹ The surviving airlines have become monopolies or oligopolies. Policy makers have been besieged with a variety of complaints: that business fares are up, small cities do not receive sufficient air services, new airlines are not able to compete effectively and congestion and delay have become prevalent.⁵⁰ One of the alleged shortcomings of deregulation is the resultant reduction in destination ports. Airlines providing services in a more competitive environment were forced to concentrate on the more lucrative markets to the detriment of other less patronized routes. Several economists have proposed re-regulation⁵¹ as a solution to the current problems facing the airline industry worldwide. Others have proposed that the real solution would be to remove the remaining government interventions in aviation infrastructure⁵² (e.g. airports and other services) that restrict competition. Then and only then would there have been total deregulation, and only then can deregulation be assessed and valid conclusions drawn about its effectiveness, benefits and demerits.

Therefore, public goods that are desirable, yet do not occur naturally, are normally ensured via some form of decision making at the public level, whether through civil society initiatives, private-public partnerships, tax incentives for businesses, or direct government action.⁵³ This is not a call for rigorous regulation, it is simply a realization of the fact that in

⁴⁸ Congressman John Baldacci, October 28th 1999, Press release: Baldacci introduces Legislation to study impact of airline deregulation.

⁴⁹ Robert Kuttner, 'If you took an airplane recently, you know deregulation's a loser' The Boston Globe, August 28th, 2000.

⁵⁰ Robert W. Poole, Jr. and Viggo Buttler: 'Airline Deregulation: The Unfinished Revolution' 12/1/98, published by the Competitive Enterprise Institute.

⁵¹ Prof. Peter Turnbull, 'Regulation, deregulation or re-regulation of transport?' (Cardiff Business School, Cardiff University) Symposium on the Social and Labour Consequences of Technological Developments, Deregulation and Privatization of Transport Discussion Paper No. 4/Geneva, 1999

INTERNATIONAL LABOUR ORGANIZATION Sectoral Activities Programme,
<http://www.ilo.org/public/english/dialogue/sector/techmeet/sdpt99/sdpt4.htm>

⁵² Robert W. Poole, Jr., 'More Airline Competition—Yet Another Reason for Airport Privatization' e-brief #104 December 1999 <http://www.rppi.org/febrie104.html>

⁵³ Inge Kaul, 'Global Public Goods, The Missing Link in Policy Making' United Nations Development Program, Office of

the absence of intervention, a lot of good may be undone. A consideration of the effects of the deregulation of electric power production and supply in California, illustrates this point.

Electric power is an indispensable commodity. Various complications have besieged California after it privatized electricity. Blackout⁵⁴ warnings have continued for weeks at a time. Electricity bills for consumers have doubled and even tripled in some regions, and skyrocketing electricity prices have forced many small businesses to close.⁵⁵ San Diego was the first California city to suffer the effects of the deregulation of electricity, which was enacted by the state legislature in 1996. The theory was that by taking away the monopolies enjoyed by state-regulated utility companies, like SDG & E, new competition among electricity producers would result in a drop in rates. It was however decided that, since such simple market economics would take a while to gain ground, the legislature should impose a temporary rate freeze⁵⁶ to protect most parts of the state from higher prices. In San Diego, the freeze came off this year, letting the market set the price—a very high price. SDG & E is owned by Sempra Energy, where Stephen Baum is CEO. He is quoted to have stated that “... there has been a very large wealth transfer from the customers in the state of California to the generators. We don't think the market's workably competitive. There are not enough players and there is not enough generation. Until that occurs, you're going to have dislocations at very high prices.” Certain key elements must be an integral part of that solution: retail price flexibility, competition at both the wholesale and retail levels, and more effective cooperation between federal and state regulators to fix a variety of market imperfections and resulting market performance problems. The long-run solution requires creating an environment in which the market can work more effectively. What needs to be avoided is any strict direct or indirect re-

Development Studies, June, 2001, New York .

⁵⁴ MANIFESTO ON THE CALIFORNIA ELECTRICITY CRISIS, Generated and endorsed by an *ad-hoc* group of concerned professors, former public officials, and consultants. Convened under the auspices of the Institute of Management, Innovation, and Organization at the University of California, Berkeley, March 2001 www.caltax.org/member/digest/mar2001/mar01-03.htm

⁵⁵ Eric Bielke, 'California Struggles With Effects of Power Deregulation', The Dartmouth Free Press, Issue 3, February 23, 2001

⁵⁶ To stop the increase in retail prices, the California legislature established a ceiling (with effect from June 1, 2000 through Dec 31, 2002) of 6.5 cents/KWh on the energy component of electric bills for residential, small commercial, and lighting customers of SDG&E. http://www.platts.com/features/california_pricecaps/background.shtml

regulation of the electricity market. In the long term, success in a free electricity market could be influenced by consumers based on price, quality of service, and other indices but there must nevertheless be some oversight over the market. That California is suffering an energy crisis hardly needs to be proved, even though deregulation was meant to spur new markets in electricity, to facilitate the workings of the “invisible hand” and provide low-cost power more efficiently and more consistently than before. Based strictly on market principles the system should have demonstrated the virtues that laissez-faire capitalists extol: lower prices, greater supply, efficient resource allocation, and economic growth. Unfortunately, this dream has not materialized. California's energy economy has been nearly brought to its knees. ‘The state must fulfill its most basic functions, e.g., enforcing the law at home and participating in the provision of essential services to its people; it will have to ... provide consumer protection during California’s transition to a free market.’⁵⁷ Government regulation of the industry through rate freezes and public purchasing have been the only elements saving California's energy economy from catastrophe. Regulatory supervision over the provision of essential services, is one of the prices we pay for our complex civilization. The more complicated society becomes, the more the need for some watching over its many parts.⁵⁸

Privatisation need not mark the end of the state's involvement in the provision of essential services. The continued supply of these energy utilities, railways, airways etc is crucial to the economy, and to every voter. The introduction of industry specific economic regulators,⁵⁹ operating at arms' length to exercise influence and control over the suppliers of privatised services to consumers could be resorted to as a remedy in situations where complete deregulation has not achieved the desired results.

⁵⁷ Brian T. Kennedy, Director of The Claremont Institute's Golden State Center. ‘Deregulation of Electricity in California: Historical Background, Recent Progress, Current Controversies, and Future Issues’ Briefing Paper #1998-56, September 9, 1998

⁵⁸ Vermont Royster, Editor Wall Street Journal, ‘Regulation Isn’t a dirty word’, Wall St. J. Sept. 9, 1987

⁵⁹ Jim Marshall, Assistant Auditor General, UK National Audit Office ‘THE AUDIT OF ECONOMIC REGULATION’, September 2000 <http://www.postcomm.gov.uk/documents/background/auditregulation.html>

Chapter 3

Threats to the environment

"...The environmental challenge which we face as a society is in fact an energy challenge but unfortunately, at this point in time, aviation has no viable alternative. Thus our efforts must be intensified to ensure that our current energy is used more cleanly and efficiently..."⁶⁰

Air transport brings substantial social and economic benefits to the world economy, but it also has a local and global impact on the environment.⁶¹ The industry has grown rapidly and become an integral and vital part of modern society. The industry continues to expand and as we continue to search for better methods of management and regulation it is assumed that the services provided by the industry will increase. An expansion in services is usually accompanied by a correlative increment in by-products, good or bad. The increase in commercial aviation ventures, coupled with the projected rise in demand for air travel creates a lot of concern, that its rapid expansion will outstrip improvements in industry environmental performance.⁶² Conservation of natural resources e.g. oil reserves as against consumption of fuel by the aerospace industry have in recent years been receiving a lot of attention. Issues relating to the protection of the environment, are of paramount importance globally and the complexity and evolving nature of environment problems associated with aviation seem to be escalating. Environmental legislation has grown especially in Europe and North America, where it is aimed at forcing environmental protection standards on industry.⁶³ Political concern is also evident in the large number of organizations that actively

⁶⁰ Pierre J. Jeannot, IATA Director General and CEO

⁶¹ J. Meredith, Executive Director, Air Transport Action Group, "Aviation and the Environment" <http://www.atag.org/avenv/>

⁶² Royal Netherlands Meteorological Institute Section of Atmospheric Composition, 'Atmospheric effects of aircraft emissions, Fresh contrail affected by aircraft vortices', observed 12 May 2001, 15h55 UT over Bilthoven

⁶³ Colin Howden, 'The Implications of Sustainable Development for Air Transport' Presentation to Scottish Airports and Air Services Seminar, Victoria, Quay, March 1999. Colin Howden is the campaign Manager for Transform Scotland, the national sustainable transport campaign bringing together 51 organizations – including transport operators, local authorities, environment and conservation groups, chambers of commerce and local transport campaigns, launched in 1997 as a sister organization to the UK Environmental Transport Campaign, Transport 2000.

protest against airport construction or expansion.⁶⁴ Several European countries have already announced that they are in favor of a “taxation on air traffic”⁶⁵ to decrease the environmental impact of aviation. This to them is a means of ensuring that air traffic pays for the environmental damage it causes.

The toxic air pollutants of greatest concern are those that cause serious health problems, some of these problems include cancer,⁶⁶ respiratory irritation,⁶⁷ nervous system problems and birth defects. A large number of these contaminants have been identified, the main source of contention is enforcement because legal instruments are only as good as those who apply and police them.⁶⁸ The problems confronting the enforcement of international law are manifest in aviation law as well. Due to the fact that the subjects of international law are sovereign states it is virtually impossible to enforce standards as effectively as is done in when dealing with private citizens. It is however very difficult to establish and then maintain acceptable levels of “reasonable pollution” in a dynamic environment where science is improving methods of testing and new discoveries continue to identify substances previously considered harmless as the causes of environmental and health problems. To improve the existing conditions, airlines all over the world are being encouraged to buy or lease newer aircraft that produce less noise, use less fuel and emit fewer engine exhaust emissions. Attempts are also being made to retire older aircraft as rapidly as possible. The management and use of land around airports is also being considered carefully,⁶⁹ to reduce the number of people affected by aircraft noise and pollution.

⁶⁴ 'Protests at Berlin Airport Expansion receive Court Backing', Airwise News, August 28, 2001
<http://news.airwise.com/stories/2001/08/999000520.html>

⁶⁵ Jutta Clever, 'AIR TRANSPORT INFRASTRUCTURE NEEDS EXPANSION' page 43 of FLUG REVUE (Germany's leading aerospace magazine) 1/2000

⁶⁶ Air Pollution Fact Sheet, Environmental Health Center, A Division of the National Safety Council 1025 Connecticut Avenue, NW, Suite 1200, Washington, DC 20036 (202) 293-2270 (tel); (202) 293-0032

⁶⁷ United Kingdom Air Accidents Investigation Branch, Inspectors Investigation Formal Report Aircraft Incident Report No: 8/88 Report on the accident to Boeing 737-236, G-BGJL at Manchester International Airport on 22 August 1985 Appendix 15c Response of Humans to Various Concentrations of Gases Concentration: parts per million (Flammability Handbook for Plastics by K. J. Hilado Technomic Publishing Co. Inc. Westport, Conn. 06881

⁶⁸ Stephen FineMan, University of Bath, U.K., ID21, 'When Regulator meets Regulated', Organization in Studies 19/6, 953-974 June 1999, Insights Issue 30

⁶⁹ Office of Environment and Energy, 'FAA LAND USE PLANNING INITIATIVE' Short-Term Recommendations
<http://www.aee.faa.gov/lui/moc-rec1.htm>

Emissions

Emissions and their effect on the environment cannot be ignored in a discussion about the aviation industry especially when global warming appears to have become a reality. Aviation has contributed greatly to the presence of toxic pollutants⁷⁰ in the air. These increase an individual's chances of experiencing health problems. Aviation depends on low sulphur-based petroleum type fuels and even though airlines are said to have doubled their fuel efficiency over the last 30 years through enhancements in airframe design as well as engine technology, aviation is said to consume about 12% of the oil supplies used by the entire transport industry.⁷¹

Nitrogen Oxides are a by product of combustion . The higher the temperature⁷² and pressure on the aircraft engine, the higher the amount of Nitrogen oxide produced. Nitrogen oxide emissions at lower altitudes tend to increase the formation of ozone thus potentially affecting local air quality. Jet aircraft produce 2-3% of the global man made NO₂ emissions⁷³. Aviation is said to be responsible for about 12% of the CO₂ emissions from the transport sector,⁷⁴ consequently, aviation is currently responsible for about 2% of total global emissions of CO₂ from the use of fossil fuels.⁷⁵ Water vapor emitted by aircraft is believed to affect climate change through the formation of condensation trails⁷⁶ and cirrus clouds. These are said to retain solar radiation and the presence of sulphate and soot particles could enhance their radiative⁷⁷ effects.

⁷⁰ Evaluating Exposures to Toxic Air Pollutants: A Citizen's Guide, EPA 450/3-90-024

⁷¹ 'Air Transport and the Environment' Civil Aviation and the Environment; Reference 84, International Air Transport Association (IATA) and the Air Transport Action Group (ATAG), IATA and ATAG, Geneva Switzerland, 1995

⁷² UK Department of the Environment, Transport and the Regions, The Future of Aviation, The Government's Consultation Document on Air Transport Policy, Chapter Six: Environmental effects

⁷³ Civil Aviation and The Environment' supra, Air Transport Action Group (IATA/ATAG)

⁷⁴ Intergovernmental Panel on Global Change, Aviation and the Global Atmosphere, Air Transport Operations and Relation to Emissions, <http://www.grida.no/climate/ipcc/aviation/126.htm>

⁷⁵ Sprinkle and Macleod, 1993; WMO, 1995; Gardner et al., 1996

⁷⁶ 'Aviation and Climate Change', February 2001 German watch. GERMANWATCH is a non-profit, non-partisan, non-governmental "North-South initiative", actively engaged in directing German political policy towards sustainability for the countries of the South as well as those of the North. The central elements of its work are: intensive dialogue with politicians and business people, public and media relations and issue-related campaigns. The issues: German and EU Developmental policy, climate change, food security and the socially and ecologically sound development of world trade. <http://www.germanwatch.org/rio/avia0102.htm>

⁷⁷ Michiel van Weele, Dominik Brunner, Hennie Kelder, Ernst Meijer, Veerle Pultau, Peter van Velthoven, Wiel Wauben, KNMI

To counter these negatives there must be a concerted effort between states, manufacturers and patrons of the services. Perhaps taxation for the cost of industrial pollution to climate could be instituted. States could also develop incentives to stimulate investment in renewable energy supply. Additional education, to make clean technology available to all and activities to enhance environmental knowledge and early warning systems could be introduced. These ideas have been considered by states and the International Civil Aviation Organization as well as other interested players in the aviation industry. The most prominent being the taxation of aviation kerosene, the introduction of tradeable emissions permits, as well as voluntary agreements between the regulatory authorities and the industry to reduce specific or collective emissions.

Perhaps the solution would lie with the exploitation of potential alternative fuels.⁷⁸ These would however require changes to design and engine technology⁷⁹ taking into consideration that safety should always come first. There are difficulties associated with setting standards, difficulties in assessing whether the standards are being met and difficulties in remedying situations. To illustrate the difficulties associated with the management of pollution the case of United States V. Ottati & Goss, Inc⁸⁰ will be considered.

In that case, the Environmental Protection Agency commenced a lawsuit, asking a court to require some companies to clean up a thirty four acre hazardous waste site near Kingston, New Hampshire. The Comprehensive Environment Response Compensation and Liability Act of 1980 had provided that where "actual or threatened release of hazardous substances from the site posed an imminent and substantial endangerment to the public health or welfare of the environment" the parties concerned could be held liable, the relief was therefore sought in the public interest. The Environmental

1999, Measuring and modeling the effects of aviation on the atmosphere,
<http://www.knmi.nl/onderzk/atmosam/aviation.html>

⁷⁸ Joyce E. Penner, David H. Lister, David J. Griggs, David J. Dokken, Mack McFarland
UNEP, WMO Intergovernmental Panel on Climate Change, 'Aviation and the Global Atmosphere What are the Options to Reduce Emissions and Impacts?' San José, Costa Rica, 12-14 April 1999

⁷⁹ 'Building Better Engines through Natural Selection' Source: University Of Wisconsin-Madison (<http://www.wisc.edu/>) from the research of Peter Senecal, a post-doctorate engineer

⁸⁰ United States Court of Appeals, First Circuit, 1990. 900F. 2d 429

Protection Agency had already commenced cleaning up the site, the defendants were therefore to compensate the agency for "all costs of removal or remedial action incurred." The case had a total of seventeen defendants of whom Ottati & Goss was one. The State of New Hampshire and the town of Kingston joined as defendants in the case. The trial was divided into two phases, the first to determine which defendants were to participate in the clean up and payment of the costs. Fifteen of the defendants were found to be under obligation to participate in further clean up or pay part of the cost or both. The second phase was to determine what additional clean up actions the law demanded and how much the liable firms would have to pay. This part of the trial resulted in the grant of an order requiring particular defendants to carry out specific clean up exercises and to pay certain specified costs. All but one of the defendants agreed to settle their dispute with the EPA. International Minerals & Chemical Corporation (IMC) was not prepared to settle. The courts were faced with the issue of determining exactly what the acceptable levels of pollution were and how to arrive at reasonable standards and measures of compliance.

The district court had concluded that IMC's previous cleanup efforts had reduced Volatile Organic Compounds (VOC) concentration sufficiently thus making the EPA responsible for any other additional clean up that it found necessary. At the appeal, the claim of the Environmental Protection Agency was that the district court should have ordered IMC to clean up the soil on its site further, to reduce the concentration of several VOCs. The EPA's argument to the appeal court was that the district court should have referred to the EPA standard of "one part per million" to make its decision. The EPA further contended that IMC failed to meet even the more generous "five to ten parts per million" standard that the court approved.

IMC however argued from another perspective. Their counsel alleged that the expert report on which the EPA relies to make its arguments states that a VOC level of **"seven parts per million in the soil would reduce lifetime exposure to cancer risks to one in a hundred thousand"** which in the opinion of IMC was reasonable. The EPA had monitored IMC's cleanup exercise and was aware that IMC intended to reduce VOC soil

concentrations to **five-ten parts per million**. The additional cleaning that the EPA was requesting would cost an added several million dollars onto the \$2.6 million already spent by IMC. In IMC's opinion this would be all for very little purpose since one part per million is not significantly safer than five or ten parts in a million.

Clarity

In determining whether standards have been met in cases involving environmental pollution, tests must be carried out. The methods employed for conducting such tests are varied and have often become sources of contention between parties.

Illustration: After IMC finished cleaning up the site, the EPA contractor tested the results. He dug a series of test pits randomly and took soil samples from different levels within each pit. Out of the 62 pits dug, soil from over 30 were found to contain VOCs concentrated at levels higher than ten parts per million.

IMC did not approve of the testing method. The allegation is that the contractor used a meter to detect just where in the various pits the concentration was highest and then soil was taken from those spots. The IMC contractor testified that such spots were about the size of a soft ball and since other evidence suggested that a lifetime exposure to VOC concentration of seventy parts per million would produce a cancer risk of one in ten thousand, one should ask just how much harm scatterings of such softballs throughout out the area could cause.

From the facts of the presentations, it was obvious that over-the-standard concentrations were present in the test area which was unacceptable. However IMC's arguments need to be considered carefully. It stated that *it would be wasteful to require them to dig up the several acre site again to process 14000 or so cubic yards of soil*. An IMC expert testified that even if nothing further was done, by the year 2000 probably more than half of the VOCs in the soil would have diffused into the atmosphere and that the VOC released into the ground water would be taken care of by the ground water treatment ordered by the court, that since their \$2.6 million expenditure had brought us so near

absolute safety, why force expenditure of millions of dollars more to buy so little. Relativity seems to be an integral part of issues pertaining to environmental pollution prevention and correction and they make solution finding very problematic.

The EPA also asked the court to order a clean up to reduce to safe-levels the concentration of a carcinogenic chemical PCB. **The soil standard was 50 parts per million** which IMC was declared to have met and **a standard of 20 parts per million for sediment concentration.** The EPA however now argued that the standards were too lenient. That the court should have selected **a soil standard of 20 parts per million and a sediment standard of one part per million.**

On this issue the initial standards were upheld on the basis that they were reasonably arrived at, taking into consideration the probable purpose to which the said land would be used in the future. That the higher standards advocated by the EPA had only been mentioned in relation to a situation in which residential houses would have been erected on the land and children may have played in the sand and eaten some of the contaminated dirt. A few areas of non-compliance were found, where the soil was discolored and the court found these sufficiently small in number to warrant a conclusion that the likelihood of this causing harm to a child through consumption was virtually nonexistent and thus did not pose a significant risk. No error was found with this decision.

The illustrations from the above case are simply to point out the complexities and intricacies faced by policy makers and enforcers in the realm of environmental protection. One of the main points that we need to consider is the fact that scientific and therefore regulatory standards are constantly shifting. Aircrafts that were state-of-the-art a decade ago are now considered inadequate. Would it be fair to hold them to the current standards or should they be measured according to the standards of their time of manufacture? And when all these issues are being taken into consideration how much importance should be attached to the fact that pollution and contamination need to be controlled despite the high costs effects that airlines could face, how much attention

should be given to the fact that airlines need to protect their investments, how much consideration should be given to the fact that some countries are not able to afford even the antiquated aircraft?

Justice Breyer after he wrote the decision in *Ottati & Goss*, had occasion to speculate about the problems posed by such cases. He concluded that the primary regulatory problem with issues such as health and the environment is a problem of "tunnel vision" He explains this as follows "...when an agency so organizes or subdivides its tasks that each employee's individual conscientious performance effectively carries single-minded pursuit of a single goal too far, to the point where it brings about more harm than good. In the regulation of health risks, a more appropriate label is "the last ten percent." or "going the last mile." The regulating agency considers a substance that poses serious risks, at least through long term exposure to high doses. It then promulgates standards so stringent, that the regulatory action ultimately imposes high costs without achieving significant additional safety benefits...To spend \$9.3 million to protect non-existent dirt-eating children is what I mean by the problem of "the last 10 percent"

The resolution of the above discussed case took ten years. The forty thousand page record of the ten year effort without the extra effort required by the EPA to re-clean the site rendered the dump clean enough for children to eat small amounts daily for 70 days each year without significant harm as opposed to the 245 days a year that was preferred by the EPA. The absurdity in the situation lies in the fact that there were no dirt eating children in the vicinity and all parties agreed that at least half of the volatile organic chemicals were likely to evaporate. The lesson to be learnt is that in the attempt to protect the environment, there must be reasonableness and practicality on the part of all players. In the absence of these two elements nothing much may be achieved.

What is being done

The adoption of the Kyoto Protocol to the UN Framework Convention on Climate Change in December 1997 has given increased momentum to the global environmental debate. It was agreed during the conference that air traffic should reduce its greenhouse

gas emissions to prevent global warming. The intergovernmental Panel on Climate Change has also been established at the request of the International Civil Aviation Organization and attempts are being to phase out both Chapter 2 and 3 aircraft from commercial service.

Noise Pollution

Noise pollution has been found to have negative effects on persons living around airports.⁸¹ Studies from Cornell University have revealed that it affects high Blood pressure,⁸² and causes a delay in reading and language acquisition skills in children. Children cope with the loud noise by "tuning out" many sounds, including human speech.⁸³ The study found that boosted levels of stress hormones⁸⁴ in children have been impacted by aircraft noise. The stress of noise has also been cited as a causative factor in asthma.⁸⁵ In trying to reduce the negative effects of noise pollution there is the need to take into account, the protection of airline fleet investment so as to guarantee a reasonable economic life for the global fleet. Some proposed noise reducing measures include the use of preferential runways and routes and noise abatement procedures⁸⁶ for take-off, approach and landing. These could help attenuate the impact of noise around airports. The success of these measures will however depend on the physical layout of airports and their surroundings.

⁸¹ Michael Vreedenburgh, ICAO Regional Officer Aerodromes and Ground Aids, 'Land Use and Environmental Control' North American, South American and Caribbean Regional Office ICAO-ACI/ LAC Seminar on Bird hazards, Environmental Protection and Land Use at Airports for the NAM/ CAR/ SAM (Americas Regions) Miami, April 24 - 27, 2001

⁸² 1995- Doctor's Guide Publishing Limited. ITHACA, NY, March 5, 1998 'Airport Noise can seriously affect health of children', <http://www.pslgroup.com/dg/5fb82.htm>

⁸³ Bill Hendrick, 'Loud Noise Can Delay Language Skills in Children', Research Finds, The Atlanta Journal, May 8, 1997Pg. 03G, Atlanta, Georgia. According to the article, Drs. Gary Evans and Lorraine Maxwell studied children in schools exposed to frequent aircraft noise and children in quiet neighborhoods. They found that even when children could hear human speech, noise had adversely affected both their reading and oral language skills, along with their level of understanding.

⁸⁴ Arline L. Bronzaft Ph. D., 'It Takes A " Silent Village" To Harm a Child', Hearing Rehabilitation Quarterly, Volume 24, Number 1, 1999, Arline L. Bronzaft, Ph.D., is currently the Chairperson of the New York City Council on the Environment.

⁸⁵ Merle English, 'Zeroing In On Hot Spots / Efforts to fight asthma examine airport pollution', 1998, Newsday Inc. <http://pages.prodigy.net/rockaway/newsday.htm>

⁸⁶ 'Airport land use and noise compatibility study', Phoenix Sky Harbor International Airport, The Federal Aviation Regulation (FAR) 'Part 150' Airport Noise and Land Use Compatibility Planning Program was designed by the Federal Aviation Administration (FAA) in the early 1980's in response to the Aviation Safety and Noise Abatement Act of 1979. FAR Part 150 sets minimum planning standards for the preparation of Airport Noise Compatibility Studies, and provides for the development of two final documents: noise exposure maps and a noise compatibility program. It also establishes guidelines for the identification of land uses that are incompatible with noise of different levels. <http://www.phxskyharbor.com/community/part150.html>

In the 1970's, the International Civil Aviation Organization established international noise certification standards contained in annex 16 to the Chicago Convention. Newer aircrafts are now expected to meet chapter three standard and higher and the possible phase out of Chapter 3 aircraft is seriously being considered.

IATA

The International Air Transport Association's fundamental mission is to represent and serve the airline industry. Its basic environmental goals lie with the Environment Task Force (ENTAF), whose members are basically airlines. It aims to; assist airline members to contain or reduce within technical and economic constraints, the effects of airline operations on the environment, endorse and support ICAO's role as the global forum for developing environmental standards and recommended practices for air transport, keep in review the strategic responses required to the environmental challenges of the coming decade, and promote and publicize the airlines' commitment to reducing their environmental. These are admirable objectives and combined with improvements in communications, navigation, surveillance and air traffic management systems airlines could fly the shortest distances thereby reducing fuel consumption. Airlines could also eliminate non essential aircraft weight, to carry more passengers and freight for any given distance.

Because air transport is an important asset for the economy of all states through the provision of employment and stimulation of industry growth, arguments favoring the reduction of aviation services for substitution with other forms of transportation have not become very popular even though they are being considered.⁸⁷ Current trends in aviation lead to the conclusion that the future growth of aviation depends both on the existence of an efficient regulatory framework as well as its ability to improve its environmental performance. Technological developments could play a part in all this, but that will depend on whether airlines are financially capable of modernizing their fleet and buying

⁸⁷ ARCH in One Minute, ARCH stands for Alternatives to short air connections through organisational measures and comprises a study (current practices report) and demonstration project to be undertaken by Langzaam Verkeer (consortium leader - BE) and SHERPA (BE), FGM-AMOR (A), BBJ-Consult (E), CDV (CZ), TC&O (NL) and TRADEMCO (GR), in order to improve the marketing tools for rail, bus travel and high speed shipping as alternatives for short air connections. Arch is a SAVE project of Area 3 Rational use of Energy in Transport and it focuses on alternatives to short-distance flights: Which alternatives are available, through which marketing instruments can they be offered and which potential of change can be achieved through improved information and marketing materials. <http://arch.fgm-amor.at/>

new aircraft. The US Military is in the process of upgrading its fleet of tactical aircraft,⁸⁸ critics of the various programs are concerned by the monumental costs of the aircraft, which, given the advanced technologies yet to be developed, are likely to increase. The cost of the F-22, for example, may already exceed the original \$71 billion. Very few commercial airlines are capable of making such investments presently, the implication then is that aircrafts currently being used, will be in operation for a long time to come.

Most international environmental law-making today takes place within the "United Nations system". The center-piece of UN efforts in this field remains the United Nations Environment Programme (UNEP) which has been instrumental in the adoption of over 40 multilateral agreements at the global or regional level. It continues to work towards the adoption of better policies to protect the environment. Measures taken at the global level will be the most effective but they are also difficult to realize because of the problems of enforceability. The initiative shown by some states is encouraging. The recent introduction of a NO_x charge at a Zurich airport⁸⁹ is an example of a local initiative to get polluters to pay and keep within acceptable limits. The current campaign against environmental pollution should aim to raise awareness on the environmental impact⁹⁰ of air traffic, encourage relationships between manufacturers and decision-makers, public and other societal actors to support campaign goals and strengthen the network of active groups in the field of the aviation and the environment.

⁸⁸ Christopher Hellman, Senior Analyst. GAO: Tacair Modernization Program Won't Solve Problem of Aging Fleet (Source : Center for Defense Information(CDI); issued Feb. 16, 2001)

⁸⁹ Eva-Maria Knaus and Jürg Klarer, ' Worldwide first aircraft engine emission charge introduced at Zurich airport.'The Regional Environmental Center for Central and Eastern Europe, REC - Sofia Initiatives: Economic Instruments: Green Budget 1: Aircraft engine emissions charge.

This was introduced to meet future demands of infrastructure for aviation, Zurich Airport with its partners set up the expansion plan "Airport 2000" involving investments of approximately CHF 2 billion (USD 1.4 billion at current exchange rates). The environmental impact assessment, mandatory for such a project, showed an increase in emissions in the "business as usual" scenario. Already now, NO_x concentrations in the area Zurich North/airport are 30% higher than the yearly standard set in law while ozone concentrations in summer are 60% above the standards. The total NO_x emissions of the Zurich Airport are nearly 1500 tons/year (VOC emissions are at about 700 tons/year). As one measure to fight air traffic related pollution an aircraft engine emission charge was introduced on September 1, 1997. According to the airport authority, the charge is expected to reduce NO_x emissions at the airport by about 5%.
<http://www.rec.org/REC/Programs/SofiaInitiatives/EcoInstruments/GreenBudget/GreenBudget1/Swiss.html>

⁹⁰ Environmental Management Systems A Principle-based Approach Introduction and Background Why Environmental Management Systems Are Important. Objectives of Study; Federal Roles and Activities The Elements and Practices. 1995 Report of the Auditor General of Canada, October, Chapter 11, <http://www.oag-bvg.gc.ca/domino/reports.nsf/html/9511ce.html>

Chapter 4

Health of Persons on Board

The Chicago Convention in Article 14 provides as follows:

“ Each contracting State agrees to take effective measures to prevent the spread by means of air navigation of cholera, typhus (epidemic), smallpox, yellow fever, plague, and such other communicable diseases as the contracting States shall from time to time decide to designate, and to that end contracting States will keep in close consultation with the agencies concerned with international regulations relating to sanitary measures applicable to aircraft. Such consultation shall be without prejudice to the application of any existing international convention on this subject to which the contracting States may be parties... ”

Aerospace transport since its commencement has always fascinated man. It has created numerous possibilities, positively affected developments in human socialization and is one of the fastest modes of transportation. Despite its positive attributes, air transport has its own peculiar disadvantages. It is characterized by the confinement of large numbers of persons into a poorly ventilated metal tube for prolonged periods of time.

There is evidence to suggest that factors inside commercial aircraft may be responsible for particular health complaints among passengers and crew. However because very few health-effects data for passengers and crew have been collected in conjunction with exposure information, it is extremely difficult to establish a causal relationship between poor air quality and seating conditions on planes and adverse health effects. Flight attendants often report incidents of soreness, dryness and itchiness of the throat, chronic sinus problems and upper respiratory infections caused by exposure to contaminants.⁹¹

On 17 and 18 May 2001, the International Air Transport Association (IATA) held its first conference, entitled "Cabin Health - Risks and Remedies". The purposes of the

⁹¹ American Society of Heating, Refrigerating and Air-Conditioning Engineers, 'No Significant Health Hazards for Crews, Passengers; Preliminary Results on Aircraft Cabin Air Quality' HVAC/R Industry News - Press Releases, Association News, IAQ Issues 1/27/1999, http://www.hvacmall.com/news/article_00135.htm

conference was to bring together representatives from the aviation industry, commercial airlines, aviation medicine, the World Health Organization (WHO) and academics from various universities with interests or involvement in aviation-health. Matters addressed included risk factors associated with air-travel and legal issues⁹² surrounding aviation.

Health risks refer to the measure of the possibility that an individual will experience health problems from exposure to certain elements e.g. poor air quality, insufficient oxygen levels, contaminants such as carbon dioxide, inadequate filtration of cabin air, humidity and temperature as well as cabin pressure. Also to be noted are cramped seating, security of overhead storage bins, risks associated with on board passenger handling, noise levels, potable water and sanitation among others. High carbon dioxide levels has been said to facilitate the transmission of disease during flights, e.g. tuberculosis.⁹³ In 1994, Consumer Reports sampled cabin air on 158 flights. On about one out of four, the carbon-dioxide level was about 1000 parts per million.⁹⁴ This is the level at which ventilation engineers consider air to be stale. Perhaps if minimum airflow and temperature levels were set to keep passengers comfortable and germ free, the situation could be improved. Lax supervision and enforcement methods have been cited as causes for inefficiency in cabin air systems.⁹⁵

Most of the research in this area has been conducted by airlines and aircraft manufacturers. These studies have greatly minimized the symptoms of dizziness, shortness of breath, headaches, nausea, breathing difficulties and heart palpitations associated with air travel. Other substances found on board aircraft have been said to be as dangerous as the above mentioned, e.g. organophosphate hydraulic fluid.⁹⁶ This and other lubrication fluids sometimes seep into the ventilation system and are said to

⁹² Report on the Cabin Health Conference, 2001, 17-18 May, Geneva, Switzerland.

⁹³ Ted Bell, 'Fly the Virulent Skies of Pulmonary Tuberculosis,' <http://magazine.14850.com/magazine/9308/conspiracy.html>

⁹⁴ Nancy Keates: How Safe is Airplane Air? 06/09/2000 : The Wall Street Journal Page W1 (Copyright(c) 2000, Dow Jones & Company, Inc.)

⁹⁵ Association of Flight Attendants, Flying Blind: FAA's Failure to Monitor and Regulate Cabin Air Quality Raises Serious Public Health Questions, Press Release Thursday December 6, 2001
http://biz.yahoo.com/prnews/011206/dct060_1.html

⁹⁶ Diana Fairechild, 'How Toxins Affect Us', This narrative, written in 1991 by James M. Miller, M.D., was part of Diana Fairechild's legal challenge to United Airlines for toxic chemical poisoning, The U.S. Supreme Court denied the claimant's petition for writ of certiorari on 10-06-97 and a 10-year legal effort ended with no compensation for loss of health and loss of job. <http://www.flyana.com/toxins.html>

have caused discomfort to persons on board. Some aircrafts have additional air quality problems, arising from malfunctioning equipment: jet fuel leaking into the air intakes⁹⁷, or carbon monoxide from the incomplete combustion of fuel.⁹⁸ The effects of these contaminants are further magnified by the reduction in the amounts of fresh air being circulated on board aircrafts especially newer models.⁹⁹ At the ITF meeting held in Amsterdam between the 20-22nd of April 1999, participants reviewed the latest research on air quality, as part of an ongoing process to improve the cabin environment for both cabin crew and passengers and reduce and control the incidence of health emergencies on board. Several issues came to light; bad air quality was said to rarely create medical emergencies in fit persons. Some passengers have latent or chronic ailments, and the poor quality of cabin air may trigger off negative reactions; medical experts have expressed concern that high cabin pressure together with a high proportion of re-circulated air could result in the aggravation of conditions such as asthma and cardiovascular¹⁰⁰ difficulties.

Certain changes have been made to the cabin environment to improve air quality for all flyers,¹⁰¹ notable among these is the ban on smoking. This was due largely to the fact that initial attempts to improve cabin air quality, focused on the limiting of ozone in the cabin. It has however been suggested that this ban may be one of the causes of disruptive on board passenger behavior. There is no acceptable excuse for passenger misconduct. There is value, however, in examining the causes of such behavior, because knowing the causes helps the airline industry cope with the problem.¹⁰² Unruly behavior among passengers, not only affects safety on board, but is a threat to the lives and health

⁹⁷ Christopher Witkowski, Director of Air Safety and Health Association of Flight Attendants, AFL-CIO Washington, D.C. at the ASHRAE Conference Palmer House Chicago, Illinois January 24, 1999. Remarks on Airliner Air Quality. <http://www.itf.org.uk/SECTIONS/Ca/airquality.htm>

⁹⁸ Thomas H. Greiner, Extension Agricultural Engineer Department of Agricultural and Biosystems Engineering, Iowa State University. 'Carbon Monoxide Poisoning- Checking for Complete Combustion', ISU Extension Pub # AEN-175, September 1997

⁹⁹ Thomas Moore, Globe correspondent, 'Hold Your Breath, Today's Airplanes provide less fresh air than recommended giving germs a free ride' Boston Globe, 8/13/2000

¹⁰⁰ John Ogle, MD, MPH, Aerospace Medicine, Consulting Staff, Voluntary Clinical Faculty, Department of Emergency Medicine, Stanford University Medical Center, eMedicine Journal, October 23 2001, Volume 2, Number 10

¹⁰¹ Congressman Bill Young, (Florida) 'Waiving Certain Points of Order Against Consideration of H.R. 3015, Department of Transportation and Related Agencies Appropriations Bill', 1990 (House of Representatives - August 02, 1989)

¹⁰² The Flight Safety Foundation, Proceedings of the 11th European Aviation Safety Seminar, March, 1999

of passengers and crew. Various reasons have been cited for unruly conduct on board airplanes, these include, stress,¹⁰³ fear of flying, fear of crowds, fear of enclosed spaces and frustration.

As altitude increases and the air pressure inside the aircraft drops, the reduced supply of oxygen increases the effect of alcohol and drugs, as well as the passengers' physical discomfort.¹⁰⁴ This is then sometimes translated into unruly behavior. To alleviate these threats, there must be increased cooperation between airlines and law enforcement agencies; severe consequences for misconduct, strong airline policies¹⁰⁵ and support for crew-members, by providing them with the tools they need to defuse hostile passenger behavior. The introduction of advanced technologies at airports could also help control this problem. American Trans Air is implementing such a program; to help crew-members cope with disruptive passengers. It is important that the crew be able to recognize the warning signs in a potentially abusive passenger,¹⁰⁶ so as to take the necessary action to prevent the harm from being caused or to reduce the potential damage to other passengers on board.

When database records indicated that disruptive passengers were becoming an increasing problem on American Trans Air aircraft, an article was placed in the quarterly flight safety magazine providing instructions to crewmembers on how to handle, and document passenger misconduct incidents. The following statement was included in the article:

NOTICE

AMERICAN TRANS AIR WILL NOT TOLERATE ASSAULT, THREATS, INTIMIDATION AND INTERFERENCE. ANY EMPLOYEE WHO IS SUBJECTED TO ASSAULT WHILE AT WORK WILL RECEIVE COMPANY SUPPORT (INCLUDING LEGAL ADVICE AND PAID ABSENCE TO APPEAR IN COURT DURING A CRIMINAL PROCEEDING

¹⁰³ Levine, Art. 'How Angry Drivers are Putting You in Danger.' Redbook, March, 1997, pp. 90-93, 114. (the author postulates that stress levels are higher now than they were 30 years ago)

¹⁰⁴ Sarah Glazer, 'Can Road Design and Police Calm Passengers Down', The CQ Researcher Volume 7 (July 25, 1997), pp. 651-671.

¹⁰⁵ Captain Klaus G. Meyer, Chairman, Vereinigung Cockpit legal Committee, 'Unruly Passengers Under the Law', <http://www.luftrecht-online.de/einzelheiten/sonstiges/unrulypassengers.htm>

¹⁰⁶ Cathy Free, 'Make Their Day. Fury at the wheel, turns frustrated drivers into outlaw Dirty Harry's with a rage for revenge', People Magazine, September 1, 1997, pp. 59-60

The Air Transport Association "believes that the best way to curb this inappropriate and sometimes dangerous behavior is to have prompt, uniform, and publicized enforcement of the law."¹⁰⁷ If passengers are aware of the fact that causing harm to the lives of other passengers on board could black list them and make it impossible for them to travel by air, perhaps they would be compelled to refrain from acting violently on board aircraft.

Hypoxia and Cabin air pressure

Air quality problems¹⁰⁸ can arise from the failure of the environmental control system to function during flights. Cabin pressure is equivalent to pressure at the altitude of 1500-2500 meters above sea level, consequently, the available oxygen is reduced and gases within the body expand. The effects of reduced cabin air pressure are usually well tolerated by healthy passengers as the human body is able to adjust when it reaches high altitudes, by increasing the breathing rate to prevent hypoxia (i.e. reduced supply of oxygen to the tissues.) Some people then suffer from altitude sickness. The symptoms include light-headedness, headache, fatigue, insomnia, palpitations, loss of appetite, diarrhoea and abdominal pain. Very rapid ascents may cause fluid to accumulate in the lungs, causing difficulty in breathing. These are symptoms exhibited by a growing number of passengers on board aircraft.

Humidity

Relative humidity is low in aircraft cabins, usually less than 20%. Low humidity could cause discomfort in the eyes, mouth and nose¹⁰⁹ but presents little risk to health. Discomfort could be alleviated by maintaining good fluid intake before and during the

¹⁰⁷ Julie A. Yates Harkey, Ph.D. Manager of Safety Programs at American Trans Air, 'Causes of and Remedies for Passenger Misconduct', Published in the proceedings of the 11th European Aviation safety Seminar, March 1999, Flight Safety Foundation: Management, Measures and Margins

¹⁰⁸ DEPARTMENT OF TRANSPORTATION, Federal Aviation Administration, Aviation Rulemaking Advisory Committee; Transport Airplane and Engine Issues-- Notice of new task assignment for the Aviation Rulemaking Advisory Committee (ARAC). [Federal Register: July 26, 2001 (Volume 66, Number 144)] [Notices] Page 39074-39075] From the Federal Register Online via GPO Access [wais.access.gpo.gov] [DOCID:fr26jy01-99] Issued in Washington, DC, on July 23, 2001. Anthony F. Fazio, Executive Director, Aviation Rulemaking Advisory Committee. [FR Doc. 01-18674 Filed 7-25-01; 8:45 am]

¹⁰⁹ 'The Airliner Cabin Environment and the Health of Passengers and Crew', Committee on Air Quality in Passenger Cabins of Commercial Aircraft, Board on Environmental Studies and Toxicology, National Research Council, National Academy Press, 2001

flights, the use of a skin moisturizing lotion, use of a saline nasal spray to moisturize the nasal passages, and the use of spectacles rather than contact lenses.

Mold, Bacteria and Infectious Diseases

The fear of transmitting contagious diseases as well as infections believed to be caused by mold¹¹⁰ and bacteria¹¹¹ on board aircraft is also gaining some attention. It has been recommended that airlines install special filters to weed out bacteria and mold, and more attention be given to blankets, pillows and headphones as these could carry infections¹¹².

The quality of aircraft cabin air is expected to be carefully controlled. Exchange with outside air and filtration of re-circulated cabin air is aimed at providing a total change of air 20-30 times per hour. This level of ventilation is to ensure that contaminant levels are kept low. Modern aircraft are assumed to re-circulate up to 50% of the cabin air. The re-circulated air is passed through HEPA filters which trap particles, bacteria, fungi and most viruses. Consequently, re-circulated cabin was assumed to be very clean. However, transmission of airborne infectious agents between passengers occasionally occurs because of the close seating arrangements on aircraft. Tuberculosis infection has been transmitted in a few instances to passengers seated close to a traveller suffering from tuberculosis, however in no case did this result in the development of disease.¹¹³ To avoid any risk of infecting others, transmitting disease from one country to another, as well as for personal health reasons, people with contagious diseases should not travel by air. It is the duty of contracting states to screen passengers for air travel and ensure that they have met all health clearance requirements.

Many countries require that aircrafts be fumigated by the use of insecticides before take-off

¹¹⁰ Anita Dunham Potter, 'Real Traveler, The Toxic Air Up There; Cabin Air Controversy Heats Up', <http://www.smarterliving.com/columns/real/The20010413.1.html>

¹¹¹ Association of Flight Attendants, 'What You Should Know About The Air You Breathe At Work Aircraft Air Quality And You', Prepared by the Air Safety & Health Department, Association of Flight Attendants, http://www.flightattendant-afa.org/aq_bulletin.htm

¹¹² Health News - 2000, Airline workers say blankets, pillowcases and headphones are not clean as passengers may think they are. According to the Union of Needletrades, Industrial, and Textile Employees (UNITE), workers at Royal Airline Laundry Services--which provides laundry services for more than 150 carriers in the US are instructed to repackage used airline blankets and headphones without cleaning them and then ship them back to the airlines for passenger use. Reuters Health, November 2000, <http://www.life.edu/NEWSLETTER/health2000.html#Airline>

¹¹³ The Fair Air Coalition, reports that this happened on board a Sabena Air Flight in 1997, and the airline was commended for immediately notifying passengers on board thus making it possible for the Scottish executives to begin treatment immediately.

especially for the removal of insects, for travel to or from countries where vector-borne diseases¹¹⁴ such as malaria and yellow fever occur. This is to prevent the introduction of infection by insects inadvertently carried on board. This is a public health measure, which is mandated by the International Health Regulations. Some passengers have expressed concern about the health risks associated with exposure to insecticide sprays¹¹⁵ when travelling by air. Pesticides, which are routinely sprayed on some international flights, might cause skin irritation but there is currently no substantial evidence of toxic hazards to passengers or crew, using any of the recommended methods and products for dis-insection.

Pre-existing illness

People suffering from chronic diseases such as cardiovascular disorders, chronic respiratory disease, severe anaemia, unstable diabetes,¹¹⁶ cancer and those taking immunosuppressive medication or whose fitness to travel is in doubt may in the future be compelled to inform airlines about these complications before they board aircraft. Medical clearance should be sought from the airline in such cases.

Immobility and circulatory problems "Economy class syndrome"

The term economy class syndrome, is a misnomer because DVT can effect all classes of passengers on all forms of transport.¹¹⁷ It has however become associated with air travel over the past decade. As airlines compete with each other to provide services at lower costs, the quality of service offered to passengers depreciates. An increase in the number of flyers has resulted in a concomitant increment in the number of complaints. In exchange for the money saved, airline passengers seem to have more complaints than ever before. Long hours of relative immobility and cramped seating¹¹⁸ have been

¹¹⁴ Norman G. Gratz, Robert Steffen & William Cockledge, 'Why Aircraft Disinsection?' <http://www.winterthurhealthforum.ch/PDF/malariaaircraftdisinfection.pdf>

¹¹⁵ Diana Fairechild, 'Jet Smarter, The Air Travelers Rx,' Flyana Rhyme Incorporated, October 1999

¹¹⁶ Travelling with Diabetes; www.travdoc.com/articles/art13.html

¹¹⁷ Catherine Jarvie, , High anxiety, Deep vein thrombosis has become a fear for every air traveller. The Guardian, July 17, 2001. Initially dubbed "economy-class syndrome" due to the relatively cramped conditions of long-haul economy air-travel, subsequent studies have indicated that DVT is far more egalitarian: both business and first-class passengers are known to have been affected, albeit in considerably fewer numbers. Furthermore, there is a strong suggestion that it is immobility, in any mode of transport, rather than space which is the key issue. <http://travel.guardian.co.uk/saturdaysection/story/0,8922,517755,00.html>

¹¹⁸ Lanny Boutin, 'Economy class syndrome' could be widespread killer Will the threat of a multi-million dollar lawsuit convince the airlines to change? January 22, 2001,

identified as possible factors for thrombi-embolic episodes¹¹⁹ i.e. the formation of blood clots leading to strokes, heart attacks and other ailments.

The difficulty with placing liability on airlines for these conditions lies in the timeliness of the manifestation of the injury. When luggage falls on a passenger the cause of the injury is obvious. But should the liability of an airline cover a situation in which manifestations of alleged injuries become obvious long after the flight? How likely is it that the flight itself is a proximate cause of the Deep Vein Thrombosis¹²⁰ (DVT) and has not been brought about by other intervening causes. This is the medical explanation given: Prolonged immobility¹²¹ and the lack of circulation especially on long haul flights¹²² particularly when seated, may lead to pooling of blood in the legs, which in turn may cause swelling, stiffness and discomfort or the development of venous thrombosis (blood clots). Most venous thrombi do not cause any symptoms and are re-absorbed without any consequences.¹²³ In some cases, however, small clots may detach and be carried through the blood stream to the heart and onward into the lungs causing a pulmonary embolus. This usually occurs only where there is already an extensive clot in the leg and may happen many hours or days after the formation of the clot.

It may result in serious consequences including chest pain, shortness of breath and even sudden death. The risk of developing deep vein thrombosis is very small for travellers unless they have pre-existing additional risk factors for thrombo-embolism, which include: Previous history of venous thrombosis or Genetic Blood Clotting abnormalities, over 40

<http://www.straightgoods.com/Boutin/010122.asp> Straight Goods, 2000-2002, Lanny Boutin is a freelance writer living in Gibbons, Alberta, whose feet are planted firmly on the ground. She can be reached at www.ecn.ab.ca/~lanny.

¹¹⁹ 'Can I claim? Deep vein thrombosis/travellers' syndrome', www.canicclaim.com/dvt.htm

¹²⁰ DEEP VEIN THROMBOSIS; A recent study done by doctors at the Tripler Army Medical Center in Honolulu and reported in *Aviation Space and Environmental Medicine* found that of 134 patients suffering from clotted blood in the lower extremities, about one fourth had traveled by air within the past month. Of those affected, 82% developed symptoms as long as two weeks later and 36% had no other predisposing factors for the syndrome. ©Kenneth Zwolski, RN, EdD, CS

¹²¹ Theresa Defino, WebMD Medical News, No Link Shown Between Long-Distance Flights, Blood Clots. Study Comes on Heels of Death Attributed to Flight. Reviewed by Dr. Richard C. Roberson, www.webmd.lycos.com/content/article/1728.62666

¹²² Lorne S. Clarke, Udai P. N. Fulena, DVT- 'A new risk exposure area?' First Published in the *Aviation and Space Bulletin*, International Union of Aviation Insurers, Number 162, July 2001 Mr. Clarke, a fellow of the Royal Aeronautical Society is Vice President, General Counsel and Corporate Secretary of IATA. Mr. Fulena is senior Legal Counsel at IATA,

¹²³ Malaysia Airlines Travel Info, Customer Care, Recommended Health Practices for Air Travelers, Customer Management

years of age, pregnancy, recent surgery or trauma, cancer , chronic venous insufficiency (varicose veins), hormone therapy (including use of contraceptive pills), pregnancy¹²⁴, smoking, obesity and other hereditary factors. The negative effects of prolonged immobility can be reduced by carrying out simple exercises at frequent intervals during the flight. Most airlines provide helpful advice on in-flight exercises to stimulate the circulation and reduce stiffness, discomfort and fatigue, as well as lowering the risk of developing venous thrombosis.¹²⁵ In addition, passengers are advised to: Drink adequate fluids, avoid smoking, avoid alcohol, avoid crossing legs when seated, Stand up in their seat area and stretch their arms and legs and wear loose fitting comfortable clothes when traveling.

Most airlines operating international flights have a policy for dealing with medical incidents on board. Cabin crew are trained to recognize and manage a range of in-flight medical emergencies. Airlines usually carry first-aid kits on all aircraft, a medical kit for the use of doctors or others qualified trained persons in treating in-flight medical emergencies as well as an automatic external defibrillator, for use by the crew in case of cardiac emergencies.

Airlines reserve the right to refuse to carry passengers with conditions where adverse affects or hazard may result during the flight, and owing to the rise in disputes concerning passenger health on board aircraft, it is feared that airlines will soon start relying heavily on this right as a protective measure against the rising number of litigation threats from passengers. It is anticipated that more travelers will consider taking blood thinners, wearing support stockings and performing mid-air exercises to stop clots from forming.

In one Australian case filed in Perth in the District court of Western Australia, against Cathay Pacific on 26th April, 2001, the plaintiff a 45 year old man alleges that he suffered DVT after a flight of about 17 hours from Perth to Dubai in February 1999.¹²⁶

Department, 21st Floor, MAS Building Jalan Sultan Ismail 50250 Kuala Lumpur, MALAYSIA

¹²⁴ Dr. Kesteven, Expert in DVT, Consultant Haematologist, Freeman Hospital, High Heaton, New Castle-Upon-Tyne, NE7 7DN, reveals that experiments in Holland have revealed a link between long-haul flights and DVT. BBC News, Friday November 30, 2001, Health Section

¹²⁵ The Times, July 31, 2001 – 'BA faces claim for 'failing to warn' of health danger'

¹²⁶ Lorne S. Clarke, Udai P. N. Fulena, DVT- A new risk exposure area? First Published in the Aviation and Space Bulletin, International Union of Aviation Insurers, Number 162, July 2001
http://www.iata.org/legal/_files/DVTIUAIArticle02AirSpaceLaw.pdf

In such situations, aggrieved passengers usually refer to the Warsaw Convention to bring actions for damages against airlines. Even though airlines can be found liable for accidents on board aircrafts, they are sometimes protected by Article 17 of the Warsaw Convention which provides as follows:

“... The carrier shall be liable for damage sustained in the event of the death or wounding of a passenger or any other bodily injury suffered by a passenger, if the accident which caused the damage so sustained, took place on board the aircraft or in the course of any of the operations of embarking or disembarking...”

The US Supreme court in the case of Air France v. Saks¹²⁷ defined an accident as “an unexpected or unusual event or happening that is external to the passenger.” Deep vein thrombosis could therefore not impose liability on airlines because the courts stated that “when the injury indisputably results from the passenger’s own internal reaction to the usual, normal and expected operation of the aircraft”¹²⁸ then the requirements of Section 17 of the Warsaw convention have not been satisfied.

In the same vein in the case of Toteja v. British Airways¹²⁹ the passengers economy class seats were alleged not to have provided him with enough room to stretch while seated. This caused swelling to his legs. The court held that it was not an accident within the meaning of Article 17 of the Warsaw Convention. However in the case of Kelly Morris v. KLM Royal Dutch Airlines¹³⁰ where a 15 year-old girl travelling between Kuala Lumpur and Amsterdam was sexually molested by a fellow passenger and suffered clinical depression but no bodily harm, contrary to the popular decisions, the court found that there had been an “accident,” because of “a special risk inherent in air

¹²⁷ 470 U.S. 392, 405 (1985)

¹²⁸ id. 406

¹²⁹ Toteja v. British Airways, D. Md (1999)

¹³⁰ Kelly Morris v. Royal Dutch Airlines, Case No: B3/2000/3820,CA (May 2001)

travel,”¹³¹ even though it was recognized as a risk not unique to air travel. Unfortunately she received no compensation because the damages had been purely mental.

Two dozen airlines are currently bracing themselves for multi-million pound damages after the High Court cleared the way for victims of deep vein thrombosis to bring a “class action” lawsuit.¹³² Prior to this decision it had been virtually impossible to hold airlines responsible in such cases. To make airlines totally liable for occurrences like these there may be need for additional regulation because the “intent of the Warsaw Convention was not to make carriers insurers of their passengers’ well-being but to create incentives for safe and economic air travel.”¹³³ Besides Article 20 of the Warsaw convention provides that;

“...the carrier shall not be liable if he proves that he and his servants and his agents have taken all necessary measures to avoid the damage, or that it was impossible for them to take such measure...”

To take advantage of this provision, many carriers are now giving passengers some general information¹³⁴ on flight risks as well as recommendations on simple exercises¹³⁵ they can perform while seated to reduce the occurrence of preventable medical conditions. Despite the arguments about cramped seating inside airplanes, safety research is said to have revealed that more confined seating offers better protection to the passenger than a wider seat pitch in case of emergency landing,¹³⁶ the impression

¹³¹ Kelly Morris v. KLM Royal Dutch Airlines, Case NO: B3/2000/3820, CA (May 2001)

¹³² Extracted from the Financial times- Friday February 1st, 2002 , Nikki Tait, Law Courts Correspondent.


¹³³ Saks v. Air France, 724 F. 2d 1383, 1389-90 (9th Cir. 1984) (Wallace J. dissenting) reviewed 470 U. S. 392

¹³⁴ Qantas and Ansett-Air New Zealand announced on January 11, 2001 that they would print warnings on tickets for long-distance passengers about the dangers of developing blood clots.

¹³⁵ The Harvard Medical School, Family Health Guide, Harvard Publications, ©2000-2002 President & Fellows of Harvard College <http://www.health.harvard.edu/fhg/Harchive/healthy.301.shtml#air>

Airlines rapped over blood clot deaths, John Smith, Labour MP for Vale of Glamorgan, said airlines should give passengers elasticated stockings, which would help improve blood flow in the calf and reduce the threat of a blood clot building up. He has introduced a private members bill which would compel airlines to give more information about how to prevent DVT, such as exercising during the flight, Wednesday, 28 March, 2001, http://news.bbc.co.uk/1/hi/english/uk_politics/newsid_1248000/1248018.stm

¹³⁶ Department of Public Enterprise, European Commission Directorate-General for Energy & Transport; A Consultation Document on Consumer Protection in Air Transport. An EU Common Transport Policy on AIR PASSENGER RIGHTS IN THE EUROPEAN UNION, <http://www.edf-feph.org/Papers/pospaper/pospapers/00.02/EDF-00-02-EN%20Air%20Passengers%20Rights.doc>



here being created that seating conditions in planes will remain cramped for a long time to come. The design of seat belts may be improved as a means of ensuring more support to passengers in the event of turbulence or similar aviation related conditions.

The Montreal Convention, which aims at modernizing the Warsaw Convention will be of significance here, it aims unlike the Warsaw Convention, at protecting the passenger by providing in its preamble that its objective is to ensure;

Protection of the interest of consumers in international carriage and the need for equitable compensation..."

To be awarded to the passenger in the event that some harm comes to him during travel by air.

CHAPTER 5

SAFETY AND SECURITY ASPECTS

“When Crandall took over as chief operating officer in 1980, he reduced the number of guards at an American facility from three to one. The lone guard was then replaced with a part-time guard and later with a guard dog. Finally, Crandall inquired whether it might be possible to replace the dog with a loudspeaker system broadcasting a tape recording of a barking dog.”¹³⁷

Since the removal of restrictions in the aviation industry, travelers have been faced with the possibility of increased travel risks.¹³⁸ The very nature of aviation – high speed machines carrying people high above the ground spurs a tremendous emphasis on preventive maintenance.¹³⁹ Aside natural disasters, such as volcanoes and floods, airline crashes are the deadliest phenomena. The most obvious causes of aircrashes have been identified as

- (i) Pilot/ ATC¹⁴⁰ ground control error
- (ii) Acts of God and
- (iii) Faulty Aircraft.

The faults being referred to here could be manufacturers defects, in which case they may not be apparent at the time of sale or use. It has however been suggested that the economic anemia unleashed by deregulation caused managements to push pilots to fly more hours with less rest¹⁴¹. Between 1982 and 1988, fatigue was found to be responsible for two operational errors per week- errors such as pilots falling asleep in the cockpit, landing on the wrong runway, or wandering out of assigned flight paths.¹⁴²

¹³⁷ Loeffelholz, Competitive Anger, FINANCIAL WORLD, Jan, 10,1989 at 28

¹³⁸ Ian Savage, 'Aviation deregulation and safety in the United States: The evidence after twenty years', In Marc Gaudry and Robert Mayes (editors) *Taking Stock of Air Liberalization* (Boston: Kluwer Academic Publishers) in honor of the 25th anniversary of the Centre de Recherche sur les Transport, Universite de Montreal, and the 60th anniversary of Transport Canada. 1999

¹³⁹ Boeing: How Safe is Air Travel? Maintenance Issues.

¹⁴⁰ Air Traffic Control

¹⁴¹ Paul Dempsey, Adrew Goetz, 'Airline Deregulation and Laissez-Faire Mythology', 300

¹⁴² 'Fatigue Blamed for Dangerous Pilot Errors', Denver Post, September 12,1988

Between 1978 and 1987, departures for major airlines increased by 27 percent¹⁴³. This means that there is additional pressure on facilities relied on by the industry. With airlines funneling their flights into time constrained spots the incidents of near misses will rise because of the over- scheduling of take-offs and landings. Flight paths have become congested, and this has placed strains on air traffic control systems.

Acts of God cannot be avoided but in the area of faulty aircraft states have a certain degree of control. Legitimate concerns have been raised about the poor maintenance of aircraft¹⁴⁴ flown especially by unhealthy airlines which lack the financial resources to buy new fleet. One authority on service marketing is quoted to have made the following comment on the status of airline safety "...it is one of those terrible debt spirals. Without profit, there can be no service and no safety..."¹⁴⁵

The commercial passenger airline business needs to be supervised due to the safety concerns¹⁴⁶ closely associated with the need to manage competition. Increased competition resulted in a battle for survival. Managements felt compelled to curtail costs including maintenance costs, mechanics wages, replacement parts and inadequate inspections and supervisions to survive. An increased reliance on waivers and exemptions from safety rules is said to be prevalent. The solution may lie in the standardization of worldwide safety supervision,¹⁴⁷ this is especially important because the advantage that regulation has over judicially awarded tort damages for injuries is that the monetary compensation is rarely able to restore health and cannot or has not been able to restore life, but regulation could attempt to prevent injuries before they occur. It is the duty of states to provide aviation security, preferably this duty should not be delegated to others, but if there is delegation then there must be adequate supervision; airlines had

¹⁴³ 'Skies Safe Today, But Turbulence Is Brewing', ROCKY MOUNTAIN NEWS, May 4, 1988, 37

¹⁴⁴ Moses, Leon N. & Ian Savage, 'Aviation deregulation and safety: theory and evidence'. Journal of Transport Economics and Policy 24(2):171-188. (1990).
Ralph Nader is co-author of "Collision Course: The Truth about Airline Safety." Paul Hudson directs the Aviation Consumer Action Project.

¹⁴⁵ Coleman, 'No Silver Lining Expected to Brighten Airlines' Stormy Skies', MARKETING NEWS, Sept. 25, 1987

¹⁴⁶ Ralph Nader and Paul Hudson, 'Toughen Up the Rules of the Sky', The New York Times, November 6, 1999, Edition Page A27

¹⁴⁷ Haile Belai, ICAO Secretariat, Secretary of ICAO Safety Oversight Study Group, Training initiatives help States to establish and manage safety oversight programmes, originally published in the "ICAO Journal", Vol. 53, No. 4, May 1998

become responsible for screening passengers and controlling access to secure areas.¹⁴⁸

The United States has set stringent conditions for security at Reagan National Airport (Washington) following the September 11, 2001 terrorist attacks¹⁴⁹ in the interest of national and international safety and security, this should deter potential terrorists from assuming the risks that caused so much damage few months ago. Increased reliance on recorders to enhance transportation safety, should be promoted by states of registration as these can help us quickly find out what happened and, therefore, help investigators and the industry prevent a similar accident from happening again.¹⁵⁰

The 1963 Tokyo Convention on Offences and Certain Other Acts Committed on Board Aircraft in paragraph 3 of Article 1, allows all states to exercise jurisdiction over offences committed aboard aircraft registered in those states. This is however limited to international travel. States are thus expected to enact national laws or incorporate their international obligations into domestic law to further deter potential acts against the development of civil aviation. Penalties for violating international law principles could deter such conduct. This could take the form of fines, revocation of pilots and other crew licenses. It could also include the confiscation of financial assets as well as the grounding or impounding of aircraft. However when dealing with sovereign states, the weakest link could undermine the best enforcement efforts. There are very few actions that can effectively be taken against a violator of international norms, and one of these is travel sanctions. These include bans on travel by individuals or a severing of transportation links.¹⁵¹ The ban on commercial passenger¹⁵² flights to and from Libya after Libya practiced terrorism against aviation targets yielded positive results and suggested a reasonable connection between travel sanctions and a change in the unwanted behavior.

¹⁴⁸ Gerald L. Dillingham, Director, Physical Infrastructure Issues -; Aviation Security, Weaknesses in Airport Security & Options for Assigning Screening Responsibilities. Testimony Before the Subcommittee on Aviation, Committee of Transportation and Infrastructure, House of Representatives, September 21, 2001

¹⁴⁹ Royal Canadian Mounted Police News Release, Re: US Terrorist attacks, Nov. 9, 2001 <http://www.rcmp-grc.gc.ca/news/nr-01-21.htm>

¹⁵⁰ Remarks by Jim Hall, Chairman - Chairman National Transportation Safety Board, International Transportation Symposium: Moving to the 21st Century - Best Practices of Today and Lessons for Tomorrow Panel on Cross-Modal Safety Issues, October 11, 2000

¹⁵¹ Richard Conroy, 'Implementation Problems of travel bans: Practical and Legal Aspects', Paper, First Expert Seminar on Smart Sanctions; The Next Step: Arms Embargoes and Travel Sanctions Bonn Germany, 21-23 November 1999

¹⁵² The United Nations imposed sanctions on Libya, after the 1988 bombing of an American airliner, Pan Am Flight 103 over Lockerbie, Scotland, in which 270 people died. International flights to and from Libya resumed in April 1999, after the seven-

As a further deterrent perhaps states that contribute to terrorist attacks could be subject to strict international flight sanctions.

Inspections

It is the duty of the state as the regulator to provide safe passage for the traveler. This means that regulators need to ensure that their territories are subject to sufficient scrutiny and security checks. This usually takes the form of inspections and other enforcement measures, this right is not restricted to aircrafts belonging to the state only, but extends to other aircrafts that land in its territory, according to Article 16 of the Chicago Convention:

“...The appropriate authorities of each of the contracting States shall have the right, without unreasonable delay, to search aircraft of the other contracting States on landing or departure, and to inspect the certificates and other documents prescribed by this convention...”

When one state fails in its duty, the whole world suffers, terrorists could embark at any port that is not carefully manned and disembark at a desired destination. A states duties of inspection therefore should not be limited to the aircraft alone, but should extend to the cabin crew¹⁵³ as well as to passengers so as to ensure that the lives of fare paying flyers are not endangered by acts of terrorism, protect passengers and prevent unauthorized access to and attacks on aircrafts.¹⁵⁴ It should also include ensuring compliance with safety standards, e.g. health of flight attendants, alcohol and drug abuse and its potential effects on crew judgment¹⁵⁵ as well as adequate training to deal with accidents on board.

year U.N. ban, following the North African country's handover of two Libyan suspects in the Lockerbie bombing.
¹⁵³ Dennis V. Canfield, Jerry Hordinsky, David P. Millett, Boyd Endecott, Dudley Smith, 'Prevalence of Drugs and Alcohol in Fatal Civil Aviation Accidents between 1994 and 1998', Office of Aviation Medicine, Washington, DC 20591, June 2000. This document is available to the Public through The National Technical Information Service, Springfield, Virginia 22161 US Department of Transportation, Federal Aviation Administration DOT/FAA/AM-OO/21

¹⁵⁴ Gerald L. Dillingham, Director, Physical Infrastructure Issues -; Aviation Security, 'Weaknesses in Airport Security & Options for Assigning Screening Responsibilities', Testimony Before the Subcommittee on Aviation, Committee on Transportation & Infrastructure, House of Representatives

¹⁵⁵ Kathleen L. McFadden, 'Comparing Pilot-Error Accident Rates of Male and Female Airline Pilots', Omega Volume 24 No. 4 1996, P. 443-460

Legal Framework

All the above is being considered with the purpose of ensuring that travel is developed in a safe and efficient manner for all its patrons. Member states of The International Civil Aviation Organization, on the 20th of February 2002, endorsed a global strategy for strengthening aviation security worldwide. This was done in a declaration issued after a High Ministerial conference held in Montreal. The outcome of the deliberations, was to set up regular and mandatory systematic and harmonized audits to enable aviation security to be evaluated in all the 187 member countries. The plan also intends to identify and then correct deficiencies in the implementation of security related standards. In their statement the member states provided that they were

Reaffirming condemnation of the use of civil aircraft as weapons of destruction as well as of other acts of unlawful interference with civil aviation wherever and by whomsoever and for whatever reason they are perpetrated;

Mindful of the need for strengthening measures to prevent all acts of unlawful interference with civil aviation;

Emphasizing the vital role which civil aviation plays in economic development;

Stressing the preeminence of safety and security as underlying fundamentals in civil aviation which need global address;

Reaffirming the responsibility of States for the security and the safety of civil aviation, irrespective of whether the air transport and related services concerned are provided by Government, autonomous or private entities;

Noting the significant improvements in aviation security recently initiated in a large number of States;

Recognizing that a uniform approach in a global system is essential to ensure aviation security throughout the world and that deficiencies in any part of the system constitute a threat to the entire global system;

Affirming that a global aviation security system imposes a collective responsibility on all States;

Noting that the additional resources which will be required to meet enhanced aviation security measures may create an undue financial burden on the already limited resources of developing countries;

In the light of the above , states further declared to

- apply within national territories appropriate additional aviation security measures to meet the level of threat;
- foster international cooperation in the field of aviation security and harmonize the implementation of security measures;
- ensure that security measures are implemented in a most cost effective way in order to avoid undue burden on civil aviation;
- ensure to the extent possible that security measures do not disrupt or impede the flow of passengers, freight, mail or aircraft;
- ensure that security measures are implemented in a manner which is objective and non-discriminatory on the basis of gender, race, religion or nationality;
- enhance the quality of human resource functioning within aviation security, including application of sustained education and training; and
- restore public confidence in air travel and revitalize the air transport industry;

Most aviation security policies were developed in response to high profile security incidents and history has repeated itself. If states are able to follow these declarations and guidelines, there will definitely be a marked improvement in aviation security worldwide.

CHAPTER 6

Regulation, Deregulation and Self-Regulation

“Regulation is the giving of authoritative direction to bring about and maintain a desired degree of order. All regulation, involves a regulatory process, various patterns of activity by people interacting to establish and maintain some desired result for the subject or entities being regulated.”¹⁵⁶

The process of regulation, involves legislating mostly done by governmental bodies and the legal components of licensing, embodied in national laws, policies, rules and regulations. Government regulation of air transport, fulfils these objectives;

- 1.The development of economic policies and strategies with respect to air transport
- 2.The formulation of specific rules and regulations to implement basic aviation law and to further national policy goals and objectives.
- 3.The issuance (or denial or withholding) of national and foreign air carrier licenses and permits
- 4.The coordination of air transport policy and regulation with other governmental entities such as those responsible for trade and commerce, tourism, financial controls, taxation and national development
- 5.The conduct of bilateral and multilateral international relations with respect to air transport

The concept of regulation is often analyzed from the public interest perspective.¹⁵⁷ When a regulatory system is being designed for a public utility, it is hoped that it will enhance economic stability and contribute to the sound economic growth and development of that industry. This raises concerns about efficiency of productivity as well as the prevention of over or under productivity. It must however be emphasized that there is a very thin line

¹⁵⁶ ICAO Manual on the Regulation of International Air Transport

¹⁵⁷ Michelle Swenarchuk, Paul Muldoon, 'Deregulation and Self-Regulation in Administrative law: A Public Interest Perspective', A paper prepared for the workshop; Deregulation, Self-Regulation and Compliance in Administrative Law, held at York University, March 1996, Cella Publication NO. 285, Canadian Environmental Law Association

between regulation and deregulation. These two concepts are very similar and do not lend themselves to easy distinction and must of necessity be discussed together. Regimes of regulation vary in style from command-and-control to relatively hands-off. Regulatory philosophy seeks to encourage industry to put its own house in order, but applies sanctions such as prosecutions, fines and withdrawal of permits to operate in the event of failure or default¹⁵⁸. The prevailing UK financial services¹⁵⁹ approach is somewhere between the two and this appears to be the preferred situation.

Deregulation

Deregulation in economics, generally refers to a policy of domestic non-intervention by government in individual or industrial monetary affairs.¹⁶⁰ The doctrine favors capitalist self interest, competition. It presupposes that consumer preferences should be allowed to control the market rather than state regulations. Economists in France, known as the physiocrats¹⁶¹ developed the theory of “laissez-faire capitalism.” This stressed non-interference of government with private commercial ventures. The 18th century British economist Adam Smith, became its greatest proponent, advocating that a policy of free trade could provide “the invisible hand” of competition which could be an effective economic regulator.¹⁶² It is characterized by trade liberalization, manifested through the lifting of currency restrictions, import controls and other barriers to free trade. It has been widely hailed by economic advisors in the World Bank and International Monetary

¹⁵⁸ S. Fineman, A. Sturdy, 'The emotions of control: A qualitative Study of Environmental Regulations', In: 'Human Relations', Not yet published, 1999, University of Bath, U.K. Presented at: Emotions in Organizational Life Conference, San Diego, August 1998

¹⁵⁹ U.K. Financial Services Authority, Regulatory Approach, <http://www.fsa.gov.uk/approach/>

¹⁶⁰ Trevor W. Parfitt, 'Adjustment for Stabilization or Growth? Ghana and The Gambia, Review of African Political Economy', Vol. 22 No. 63

¹⁶¹ Francois Quesnay, founder of the physiocratic school of political economy, was court physician to Louis XV and published the *Tableau Economique* (or Economic Table) in 1758. The first English translation was in 1766 described as; THE OECONOMICAL TABLE An Attempt Towards Ascertaining and Exhibiting the Source, Progress, and Employment of Riches, with Explanations, by the friend of Mankind, the celebrated MARQUIS de MIRABEAU. The Physiocrats were a small circle of 18th-century French thinkers whose theories would become an important phase in the growth of economic science. They developed the idea of the economy as a circular flow of income and output as a reaction against the Mercantilists' copious trade regulations, the Physiocrats advocated a policy of laissez-faire, which called for minimal government interference in the economy. These revolutionary economic concepts helped to spur the French Revolution.

¹⁶² Adam Smith: 'An Inquiry into the Nature and the Causes of The Wealth of Nations', 1776, The book identified land, labor, and capital as the three factors of production and the major contributors to a nation's wealth. In Smith's view, the ideal economy is a self regulating market system that automatically satisfies the economic needs of the populace, He described the market mechanism as an "invisible hand" that leads all individuals, in pursuit of their own self-interests, to produce the greatest benefit for society as a whole. Smith incorporated some of the Physiocrats' ideas, including laissez-faire, into his own economic theories, but rejected the idea that only agriculture was productive.

Fund¹⁶³ as a 'quick fix' capable of reviving industrial development by attracting inward investment and spurring the modernization of industrial technology.¹⁶⁴ These ideas are not restricted to the mercantile industry alone. They have gained sufficient attention and appear to have yielded positive results. Various human endeavors have been affected by the desire for de-regulation and the aviation sector has been no exception.

In various instances the impression is created that to many, the term deregulation is merely a way to "add a little salt and pepper of competition to a rather tasteless stew of regulation..."¹⁶⁵ It must be noted however that contrary to common expectations, deregulation does not imply that government has stepped aside completely and allowed competitive forces to take over. Such a total lack or absence of government or state regulation, has been referred to as "self-regulation" in such situations, the industry or business develops its own peculiar regulatory regime with the passage of time. To others deregulation is mainly a change in the way of managing a particular interest with the hope of positively affecting that industry's output. The pervasiveness of regulation is reduced for various reasons, e.g. to encourage private entrepreneurship,¹⁶⁶ provide better quality service or prevent a dominant service provider from becoming a monopoly.¹⁶⁷

The general belief before the liberalization of air transport was that privatization of key government owned profit making organizations would cure all ills. In a perfect market economy, supply and demand ensure that services provided meet the needs of the market at affordable prices. This presupposes that producers are efficient and markets are

¹⁶³ Mark Egan, IMF urges Tunisia to speed trade liberalization, Reuters, February 13, 2001, <http://www.tunisiaonline.com/pressbook/imf130201.html>

¹⁶⁴ United Nations Development Program, ID21, Research Service; Can Africa afford free trade? Liberalization, industrial change and prosperity don't always mix. <http://www.undp.org/poverty/news/>

¹⁶⁵ In Re Applications of Microwave Communications Inc. For Construction Permits to Establish New Facility in the Domestic Public Point-to-Point Microwave Radio Service at Chicago, Illinois, St. Louis, Mo., and Intermediate Points, *Decision*, 18 F.C.C.2d 953 (1969); Nicholas Johnson concurring *affirmed and clarified by Memorandum Opinion and Order*, 21 F.C.C.2d 190, 18 Rad.Reg. 226 (P & F) (1970)

¹⁶⁶ Shaimaa Labib, 'Private sector grows small', Al Ahram Weekly, 15-21 April, 1999, Cairo, Egypt, <http://www.ahram.org.eg/weekly/1999/425/ec4.htm>

¹⁶⁷ Commissioner Erik Sten, Prepared Testimony, "Open Access" To The Internet Hearing on HR 1686 "THE INTERNET FREEDOM ACT OF 1999", House of Representatives Committee on Judiciary, June 30, 1999, Portland Oregon. Erik Sten, is an elected member of the City Council of Portland, Oregon

perfect. The outcomes of the application of these principles in any given setting¹⁶⁸ cannot be predicted accurately because each industry is dynamic and has its own peculiar consumer preferences.

Self-Regulation

This is a regulatory technique that encourages or sometimes demands that an enterprise police itself. This involves the participation of the industry being regulated, in the setting of standards¹⁶⁹ and their enforcement. It is believed to be effective because the policy makers have direct access to relevant information and have a good understanding of the economics of the industry being regulated. It has been defined as the implementation of codes of practice (or conduct) embodying mutual obligations by competing players in a market.¹⁷⁰

This concept seems to be gaining in popularity because of its apparent flexibility.¹⁷¹ It can be tailored on an industry-by- industry basis. The obvious disadvantage of such a policy however will be that it may be anticompetitive. The production of pharmaceuticals and cosmetics¹⁷², mining safety as well as television broadcasting¹⁷³ are all subject to some form of such self-regulation, whereby working institutions undertake at their own initiative to enforce compliance with ethical and legal standards in a complex, competitive and dynamic environment. This kind of regulation can work effectively if the process is allowed to evolve free from external threats such as anti-trust policies.

¹⁶⁸ Chakravarthi Raghavan, Negative effects of trade and capital market liberalization, originally published in the South-North Development Monitor (SUNS) of which Chakravarthi Raghavan is the Chief Editor. SUNS 4331 Wednesday 25 November 1998

¹⁶⁹ Australian Communications Authority

¹⁷⁰ Trade Practices Commission (TPC) 1988, Self Regulation in Australia and the Professions: Report by The Trade Practices Commission, February 1988 Volume 1, p.2

¹⁷¹ Prof. Monroe E. Price, Stefaan Verhulst, "Self Regulation" University of Oxford UK, from the book " Protecting our Children on the Internet, Towards a new culture of responsibility by Jens Waltermann Marcel Machill (eds.): Gütersloh (Germany): Bertelsmann Foundation Publishers, 2000

¹⁷² Jacqueline A. Greff, 'The Regulation of Cosmetics That Are Also Drug', 51 Food & Drug L.J. 243 (1996)

¹⁷³ Les Brown, 'Self-Regulation in American Television in Areas Aside From Program Content', 13 Cardozo Arts & Entertainment L.J. 705 (1995)

Co-Regulation

Various methods of ensuring compliance exist in the modern economic world. One of these is Co-regulation,¹⁷⁴ which functions through the establishment of industry-wide standards,¹⁷⁵ whereby all participants in a particular industry are in competition with each other with reference to their ability to abide by their own standards. Sanctions for violations are then administered by members of the industry against non-compliant members.

Enforced Self-regulation¹⁷⁶

This could take the form of an individual setting its own standards which it is expected to abide by. This involves the processes of self-monitoring, self-correcting and self-reporting. Failure to set reasonable standards or proposals of inadequate standards could result in the firm being forced to comply with onerous standards set by a public/external body. A popular form of self-regulation practiced in the Netherlands is sector based regulation. The regulatory agency enters into an enforceable agreement with the firm. Violation of the terms of such agreements could thus result in the imposition of penalties.

What should be gathered from the above is that the concepts of regulation or deregulation are rarely final.¹⁷⁷ The establishment of a regulatory regime is an evolving process, it involves changes from one state to another in search of the perfect situation. Regulation is not static or permanent¹⁷⁸. Technological changes as well as increased public whim and wisdom suggest that the cycle of regulation and deregulation is

¹⁷⁴ Andree Wright, "Australia's Co-regulatory scheme for Internet Content", Director, Policy and Content Regulation, Australian Broadcasting Authority, Hearing on content regulation, co-regulation and self-regulation within the framework of new communication and information services, Steering Committee on the Mass Media, Council of Europe, Strasbourg, 17th October, 2000

¹⁷⁵ Office of Regulation Reform, 1996, Regulatory Alternatives, P.27 (Australia)

¹⁷⁶ Federal Bureau of Consumer Affairs, (FCBA) 1996 Codes of Conduct Issues Paper, November p.4, Australia

¹⁷⁷ Tim Shaughnessy, Ph.D Candidate, Department of Economics, Florida State University

"The Costs of Evolving Regulation: A Case Study", Department of Economics, Florida State University, October 1999, P. 11

¹⁷⁸ Robert Horwitz, "Deregulation as a Political Process, Professor, Department of Communication, University of California, San Diego, Exitos y Fracasos de la Nueva Regulación en Telecomunicaciones Conference, Centro de Investigación y Docencia Económicas [CIDE] Mexico City, March 23, 1998

destined to be a dynamic process.¹⁷⁹

The questions that still need to be answered are the ff;

- Are regulation and deregulation mutually exclusive ?
- Is deregulation really superior to regulation ?

These two questions were chosen because the picture is somewhat mixed. Due to business failures and mergers, the industry has become more concentrated than it was immediately after deregulation. Airline hub- and- spoke policies have made some trips less convenient. However there is sufficient evidence to show that airfares are lower and travelers appear to have more choices.

Prior to deregulation, the aviation industry had been protected by states and governments¹⁸⁰ to provide a measure of security to a fledgling industry. When deregulation was proposed it was believed that the industry had flourished and grown into a strong and profitable enterprise which no longer required protection. The following are some of the objectives aimed to be achieved by the deregulation of Australia's airline industry, (and these aspirations were shared by all the proponents of deregulation) as stated by Congressman Baldacci in his press release on October 28th 1999:

- (i) Increased responsiveness by airlines to consumer needs.
- (ii) A wider range of fares and types of services , thus providing enhanced travel opportunities.
- (iii) Increased competition and pricing flexibility leader to greater economic flexibility in the industry.
- (iv) A continuation of (Australia's world –renowned_) safety record .

It was believed that liberalization would result in innovation and greater productivity. However, “privatization as an economic concept, seems to work particularly well in an

¹⁷⁹ For a highly accessible introduction to some of the personalities and policies of this process, see the biographies of Charles Francis Adams ,

¹⁸⁰ Ludolf Van Hasselt, Perspectives for Air Transport in Developing Countries. The ACP EU Courier, No. 169 May – June 1998 <http://europa.eu.int/comm/development/publicat/courier/courier169/en/056.pdf>

environment where competition lives and thrives,"¹⁸¹ and the airline business had never previously been run to be truly competitive. Airlines require very expensive capital equipment that need to fly mostly full to be cost effective. Before deregulation, governments ensured that capacity was closely matched to market demand, thus excess capacity was avoided and the industry was not subject to anticompetitive practices, efforts were made to ensure that airlines did not go out of business.¹⁸² During the 1980's deregulation permeated various infrastructure industries; telecommunications, banking, energy and other utilities. However the experiment with deregulation in the transportation industry has shown that transportation is not a purely competitive industry.¹⁸³ The positive effects are obvious and these are especially in the area of the non-business travelers price options with flexible travel times. However the benefits seem to have been jeopardized by the industry's concentration, and the business traveler is faced with higher prices and the same poor services enjoyed by the leisure traveler. Obviously a lot has been lost because of governments decline interfere (to promote the public interest) which in turn yields societal benefits. In a lot of situations, the operator became the regulator, resulting in a lot of negative consequences for the industry, the world economy as well as the passenger. The following narration will attempt a brief overview of the U.S air transport industry and its current status.

The Developed Country: Deregulation in the U.S.

Prior to these changes the industry had been run differently. The first airlines in the United States of America, were encouraged by governmental subsidies, mainly to carry the mail. However before 1938, the regime had been fairly laissez faire. Market failure is said to have given birth to economic regulation¹⁸⁴ which was introduced in 1938 with the promulgation of the Civil Aeronautics Act.

A similar situation to what is present in the deregulated aviation industry existed in the

¹⁸¹ Herb Keller , Southwest Airlines.

¹⁸² Robert W. Poole , Jr. and Viggo Buttler: 'Airline Deregulation : The Unfinished Revolution' Policy Study No. 255, March 1999, Reason Public Policy Institute (RPPI) Executive Summary On the 20th anniversary year of airline deregulation.

¹⁸³ Paul Stephen Dempsey & A. Goetz, 'Airline Deregulation and Laissez-Faire Mythology', 28

pre-regulation period of the ground transport industry in the United States. By 1930, almost all states regulated intrastate bus transportation. However the interstate state bus industry was primarily regulated by market forces. In the 1930's bus companies, trade associations as well as state regulatory agencies called for federal legislation. The main reason being that the depression had resulted in fierce competition, marked by falling prices, lowered service and safety standards which it was feared would drive them out of business. Congress therefore enacted the motor carrier Act of 1935 to regulate the industry. Like aviation regulation the test for entry was a fitness test. The motor carrier Act of 1935 amended by the Bus Regulatory Reform Act of 1982 issued certificates for operations over regular routes and between specified places on a published timetable. It first applied a 'public convenience and necessity standard in Pan -American Bus airlines Operations¹⁸⁵, The questions asked were as follows;

- whether the new operant or service will serve a useful public purpose responsive to a public demand or need.
- Whether this purpose could be served by existing carriers
- Whether the new carrier could perform this function without endangering the operations of the existing carriers contrary to public interest.

This test was used for over forty years to prevent excess capacity, until the 1970's when a less protectionist system was required to encourage the free market management of the industry. The burden to show damage was then subsequently shifted onto the party objecting the addition of a new carrier to the existing network and the second part of the test was eliminated. The motor Carrier Act of 1980 eased entry into and reduced barriers to competition to allow price flexibility, greater efficiency and expansion. The current situation in the bus transportation industry; one large family of buses functioning under the Greyhound Inc. name.

The outcome of liberalization in any given economy will depend equally on: the credibility and pace of liberalization, the status of existing capabilities -- defining the

¹⁸⁴ Paul Stephen Dempsey & Andrew R. Goetz. Airline Deregulation and Laissez-Faire Mythology,

¹⁸⁵ 1 M.C.C. 90,203 (1906)

*'distance' firms have to travel to survive liberalization the efficacy of related interventions. liberalization may need to be moderated by interventions that curb competition, in accordance with a clear-cut decision*¹⁸⁶

During the Great Depression, Congress concluded that the economic condition of the airline industry was unstable. A continuation of its anaemic condition it was feared, would imperil its tremendous potential to satisfy national needs for growth and development. To avoid the deleterious impact of "cut-throat", "wasteful," "excessive," and "unrestrained" competition and to avoid the economic "chaos" that had so plagued the rail and motor carrier industries, congress sought to establish a regulatory structure similar to that devised for those industries that had also been perceived to be "public utility" types of enterprises.¹⁸⁷ This saw the birth of the Civil Aeronautics Board (CAB) and this regime remained in effect until 1978 when the industry was deregulated. The Airline Deregulation Act of 1978 was intended to provide a gradual transition to deregulated entry but the gradual change was replaced with a comprehensive overhaul in policy. The catalyst for deregulation appears to be the failure of regulation. The most prominent arguments being that pricing and entry restrictions¹⁸⁸, resulted in insufficient competition, inflated airline costs and denied the industry adequate profits. Senator Edward Kennedy chaired subcommittee hearings that gave birth to congressional reform in this area. The Kennedy report concluded that deregulation would result in pricing flexibility, which would stimulate new and innovative offerings, allow passengers the range of price and service options dictated by consumer demand, enhance carrier productivity and efficiency, increase industry health and result in superior allocation of society's resources.¹⁸⁹

Alfred Kahn the chairman of the Civil Aeronautics Board, assured all skeptics that the benefits of deregulation were countless;

¹⁸⁶ 'The Technological Response to Import Liberalization in Sub-Saharan Africa': Basingstoke: Macmillan, 1999 edited by Sanjaya Lall, Department of Economics, Oxford University

¹⁸⁷ Paul Stephen Dempsey, The rise and Fall of the Civil Aeronautics Board-Opening wide the Floodgates of Entry, 11 TRANSP.L.J. 91,95 (1979)

¹⁸⁸ Jith Jayaratne, Philip E. Strahan, 'Entry Restriction, Industry Evolution and Dynamic Efficiency: Evidence from Commercial Banking' Federal Reserve Bank of New York, Journal of Law and Economics, Volume 41,(1) p.239-73, April 1998

¹⁸⁹ Civil Aeronautics Board Practices and Procedures, Senate Subcommittee on Administrative Practice of the Judiciary Committee 96th Congress, 1st Session (1976) The rise & Fall of the CAB, supra.

"I am confident that ...consumers will benefit; that the communities throughout the nation - large and small -which depend upon air transportation for their economic well being will benefit, and that the people most closely connected with the airlines-their employees, their stockholders, their creditors-will benefit as well."¹⁹⁰

During the 1960's and early 1970's, economists had noticed that the few markets that had not been controlled by the Civil Aeronautics Board, i.e. the North - south markets within California, had dramatically lower fares than the routes controlled by regulators¹⁹¹. Lively competition among the airlines had been thought to have led to these reductions. At its onset, deregulation resulted in decreases in fare quotes. New entrepreneurs such as People Express and Air Florida entered the market. They drove prices down with their lower fares but this had adverse effects on the airline industry as a whole. The carriers chose to carry passengers at low rates rather than fly empty. Economic analysis from the Brookings Institution and George Mason University have estimated that consumers save some \$ 19.4 billion per year because of the lower fares resulting from a competitive airline market place.¹⁹² The long term results were devastating because the airlines were unable to cover long-term and fixed costs, wages were slashed, maintenance was reduced to the barest minimum, quality of service decreased and airlines deferred the purchasing of new aircrafts, there were bankruptcies, mergers and buy-outs. Senator Robert Byrd in a recent summation of his many years in the Senate, regretted only two votes: one against Civil Rights legislation and the other in favour of airline deregulation. The Senator's concern was for local communities, which under airline regulation received subsidized service from trunk carriers. These communities have since been virtually deprived of regular commercial airline services and relegated to commuter airlines or no service under the economically efficient standards of deregulation¹⁹³.

¹⁹⁰ Statement of Alfred E. Kahn before the Aviation Subcommittee of the House Public Works and Transportation Committee on H. R. 1145, 95th Congress. 2 d. Session S (March 6, 1978)

¹⁹¹ Robert W. Poole, Jr. and Viggo Buttler, 'Airline Deregulation: The Unfinished Revolution', Policy Study No. 255, March 1999, Reason Public Policy Institute (RPPI) Executive Summary On the 20th anniversary year of airline deregulation.

¹⁹² Robert Crandall and Jerome Ellig, 'Economic Deregulation and Customer Choice' (Fairfax, VA: Center for Market processes, George Mason University, 1997)

¹⁹³ To combat this situation, Congress introduced a program called the Essential Air Service which has been distributing

From the airlines, perspective however it has been complicated. They found themselves with too many large aircraft and too many non-economic routes. Secondly numerous new airlines sprung up, hoping to reap some of the expected profits. What deregulation accomplished was the transformation of a static aviation market into a dynamic, continually changing market. Airlines reconfigured their fleets for hub and spoke service, shifting to smaller aircraft to provide more frequent services. This resulted in a downsizing of long haul aircraft e.g. 747's were replaced by DC 10's and subsequently 767s and 757s. This overhauling implied that large aircraft traditionally relied on for International services had become available at less prohibitive prices to other countries especially in the developing world because the airlines were prepared to sell them or to buy new fleet better suited to the hub-and-spoke business.

Excessive competition, sometimes referred to as destructive competition seems to be one of the outcomes of deregulation. It has often resulted in increased regulation of a previously deregulated sector. This is mainly due to the fact that destructive competition usually has the following effects ;

- lower quality services
- reduced safety and security
- losses to business through sales, mergers, emergence of monopolies and oligopolies.

The question to be asked is this "Does fierce competition always result in lapses of safety and increased concentration ?" As a matter of theory it should not but in truth, all business aims at maximizing profits and the fewer the checks and balances, the greater the temptation and potential to cut corners.

annual amount of \$100 - \$300 million annually to over 30 states. This program periodically faces budget elimination . See e.g. Budget Cuts Threaten Air Links to Remote Areas, N. Y. Times, September 6, 1995 at A1, A 20.

Outcomes

The following question posed by Congressman Roman Hruska to Alfred Kahn in 1977 clearly illustrates the situation

*"... You are going to invite into the area of new entry the severest competition between airlines who service that particular market and ultimately the big will eat the little, and those who are able to withstand the severe competition and the reduced fares even below operating expenses - will prevail. Then the airlines that cannot prevail of course will have to go out of business or do something else. After that transition period then you are going to see the air fares go back up again and the big will control the airline industry."*¹⁹⁴

This prediction appears to be true, as more and more airlines file for bankruptcy or are sold to bigger airlines, or enter into agreements with powerful airlines just to stay in business. Airlines have developed new methods to deal with the issues brought about by the changing regime. During the first decade of deregulation there were more than 50 mergers acquisitions, and consolidations. There have been attempts to allow foreign investment in airlines, to infuse additional capital into the ailing industry, a practice that was previously considered impossible especially because of the nationality requirements for airplane registration¹⁹⁵. Aircrafts have the nationality of the State in which they are registered. Article 18 of the Chicago convention also provides that:

"...An aircraft cannot be validly registered in more than one state, but its registration may be changed from one state to another..."

This provision does not interfere with the rights of airlines to operate as international units. States have set limits on the amount of control and equity that foreigners can have in airlines incorporated in their territory. These restrictions appear to be creating problems especially for airlines in distress which could find financial relief from foreign investors. Article 77 of the Chicago Convention provides that:

"...Nothing in this Convention shall prevent two or more contracting States from constituting joint air transport operating organizations or international operating

¹⁹⁴ Aviation Regulatory Reform, Hearings before the Subcommittee of Aviation Public Works and Transportation, 95th 'cong., 1st session 178 (1977) House Hearings.

agencies and from pooling their air services on any routes or in any regions, but such organizations or agencies and such pooled services shall be subject to all the provisions of this Convention, including those relating to the registration of agreements with the Council. The council shall determine in what manner the provisions of this Convention relating to nationality of aircraft shall apply to aircraft operated by international operating agencies...”

In order to allow foreign ownership, an aircraft could be registered in one of the states party to the group. The greatest concerns about foreign ownership of airlines have concentrated on issues of national security and the protection of domestic workers.¹⁹⁶ It has been questioned whether states/nations will be able to rely on aircraft that do not entirely belong to them in times of national crises or war. The question that needs to be answered is this, what argument or principle could possibly prevent a sovereign state from exercising proprietary rights over an aircraft that it owns partly, especially when the aircraft happens to be in its territory, and is required for the defence of that territory?

The way forward can be aptly summarized in the ff words;

“... We are friends of this industry, not enemies of it. We recognize and appreciate the fundamental role commercial aviation plays in supporting the nation’s commerce, communications, and national defense. We do not believe that government should apply command economy type restrictions over price and supply . We do believe that somewhere between the regulatory regime established for airlines in 1938, and the contemporary environment of laissez-faire market Darwinism, lies the appropriate level of government oversight for this critical infrastructure industry. . .”¹⁹⁷

Competition and Concentration

Free market economists who applauded deregulation assumed there would be competition and not many advantages of big firms over small ones. Secondly there was

¹⁹⁵ Article 17 of the Chicago Convention

¹⁹⁶ Protecting the U.S. Aviation Industry and its Workers, Transportation Trades Department AFL-CIO Resolution No. 6-99, Adopted February 16, 1999 <http://www.ttd.org/Resolutions/Feb1999/no.6.htm>

¹⁹⁷ Paul Stephen Dempsey & Andrew A. Goetz; 'Airline Deregulation and Laissez-Faire Mythology', preface xv

sufficient evidence to suggest that markets that were not popular or competitive could become contestable under certain conditions. The assumption that would make these possible were the following 'that all competitors have access to the same technology and no cost advantages exist for any operator.' It is now obvious that the advantages of the bigger airlines were underestimated.¹⁹⁸ In a 1988 article one of the stalwarths of aviation deregulation was said to have stated that,

"...I have little doubt that ...the disappearance of most of the price - cutting new entrants and the marked re-concentration of the industry will produce higher prices..."¹⁹⁹ because price competition will become less severe.."

Competition has become less severe because of the difficulties faced by new airlines.

New Entrants

Assuming there were new entrants, despite the reduced regulatory barriers to entry, they would have difficulties in starting business²⁰⁰. Sixty eight percent of US. airports have no gates to lease to a new entrant.²⁰¹ The new operator would be forced to lease from an incumbent at exorbitant rates. For example at Detroit , Northwest is said to charge sub-lessee Southwest 18 times what it pays for the space.²⁰²

There is also the issue of computer reservation systems. These are used worldwide, the implication is that the owners are able to have a screen bias advantage over subscribers to the services. United and American Airlines, own the largest system²⁰³. To enjoy the benefits of screen bias, smaller airlines could be drawn into code shares and affiliations, the implication, the smaller carriers are virtually franchises of the larger ones.

¹⁹⁸ Testimony of Alfred Kahn before the California Public Utilities Commission 6190 and 6223 (Jan 31,1989)

¹⁹⁹ Alfred Kahn, 'Airline Deregulation-A mixed Bag, But a Clear Success Nevertheless' 1988, 16 TRANSP. L.J. 229,236

²⁰⁰ Robert W. Poole, 'More Airline Competition--Yet Another Reason for Airport Privatization' e-brief #104 December 1999 Reason Public Policy Institute (RPPI) <http://www.rppi.org/febbrief104.html>

²⁰¹ Hardaway, Transportation Deregulation, 1985 14 TRANSP. L.J. 101

²⁰² Paul Stephen Dempsey & Andrew A. Goetz; Airline Deregulation and Laissez-Faire Mythology, 234

²⁰³ United sold half of its Apollo/ Covia system for \$500 million in 1988 to US Air and five foreign airlines Wall Street Journal Feb. 6, 1989

The last and perhaps one of the most noteworthy points is the fact that new entrants will definitely have a lot of difficulty finding finance for their ventures. With more than 150 airlines having failed since 1978 through bankruptcy, investor confidence in new airline ventures is virtually non-existent. The inference then is that significant new entry is highly unlikely.

Survival Techniques:

The prevailing situation in the U.S. aviation industry creates the impression that if an airline possesses the following characteristics, it has a chance at survival.

Hubs

When an airline has strategically located hubs, gates, landing and take-off slots, then it appears to have a large service area over which it has sufficient influence. Revenue is gained not only from flight services but from transactions for the use of its proprietary rights in the airports. United Airlines has hubs in Chicago, Denver, San Francisco and Washington(Dulles), whereas Pan Am dominated no domestic airport and was one of the first major airlines to make its exit from the market.

Frequent Flyer Programs

The majority of ticket sales and purchases world wide are done by travel agents. Where passengers and agents are able to reap benefits such as higher commissions²⁰⁴ from utilizing the services of a carrier, they are tempted to continue using those services for the fringe attachments. These frequent flyer programs, have yielded both travel agent and passenger loyalty and if an airline has attractive programs it will be able to attract and keep a loyal following

Ownership of New Aircraft.

This is mostly of economic significance. Even though it is assumed that newer aircraft are safer than older aircraft the additional benefits to the airline that relies on new aircraft is that fuel consumption is low. This results in lower expenditure on fuel as against other airlines that rely on older aircraft. The money saved could then be used in other areas or to subsidize prices in areas where competition is fierce and the carrier is forced to operate below cost.

²⁰⁴ Harry Shattuck, The operative word today is "bias." Signs of bias are everywhere, The Houston Chronicle, Oct. 19, 2000,

Low Employee Wages

Airlines also spend quite an appreciable amount of earnings on employee wages.²⁰⁵ In situations where there are unions there is a lot of pressure on the airline to provide good working conditions for the employees. Continental Airlines and TWA, which were able to break their unions, were obviously able to save some money for the same work being done.

International Services.

The largest amount of revenue from airline operations appears to be from international services. Long haul flights still yield sufficient revenue to keep the operators in business. The ability of an airline to offer international services is now recognized as one of the indices that it requires to stay in business.

Foreign Ownership

There seems to be a lot of debate on allowing increased foreign ownership quotas with respect to the airline industry. In the U.S., this is limited to 25% of voting stock and cabotage is not permitted at all. In 1991, the Department of Transportation (DOT) announced that it would allow foreign ownership equity of up to 50%. Former Secretary Skinner also proposed that statutory limits on voting ownership be increased to 49%.²⁰⁶ The allure here is that as deregulation ripples through the aviation industry globally, there is a prediction that eight to ten global mega-carriers would be left standing this makes the international alliance or merger option very attractive. It would connote access to international markets without the burden of negotiating rights.

Foreign ownership however raises the question of anti competition concerns and in an industry where states are party to all the international treaties, what happens when it is not possible to identify the state of nationality of an aircraft. It may be registered in one state but operated by a partnership of international origin, in the words of Dempsey,

<http://www.chron.com/cs/CDA/story.hts/travel/shattuck/717669>

²⁰⁵ Joe Lopez, "Jobs and safety sacrificed in global airline industry", 13 November 1998, Some 75 percent of airlines have contracted out work and many are engaged in global outsourcing. For example, Swiss Air shifted its aircraft maintenance to Shannon, Ireland. Singapore Airlines, Japan Airlines and Cathay Pacific moved their maintenance operations to Xiamen, China. Ticketing and data processing for British Airways and Swiss Air is now performed in Mumbai, India. This trend is driven by the necessity for each company to reduce costs in the increasingly competitive industry by transferring operations to low-wage and minimal or tax-free areas. Low-cost operations have become the benchmark that all airlines in every country must match. <http://www.wsws.org/news/1998/nov1998/air-n13.shtml>

²⁰⁶ McGinley, Transport Aide Backs Raising Limit on Foreign Holdings in U.S. Airlines, WALL ST. J. Feb. 20, 1991

“...if Delta owns 5% of Swiss Air, and Swissair own 5% of SAS, and SAS owns 18.4% of Continental, how much of Continental does Delta control?”²⁰⁷ Worth mentioning is the fact that a large number foreign airlines are owned in whole or in part by their governments. Among these, most of them therefore do not rely on profits made as severely as U.S. airlines. The attraction for the airline owner here is that governments will be able to subsidize losses and underwrite capital requirements.

The Developing County and Deregulation: The Ghanaian Experience

Following the apparent success of deregulation in the US and other developed countries, developing countries such as Ghana , decided to liberalize entry into the aviation industry. The purpose was to be the same, to provide the flying public with more choices especially better services at lower costs. Entry into this sector was prolific and the current situation is not what was initially expected.

Attempts will be made to discuss the status of the airline industry in Ghana before deregulation, developments following liberalization, problems encountered, the current situation, and the way forward. Similarities and differences between liberalization in a developed and developing economy will become apparent especially because of the differences in available infrastructure, legal framework and expertise. Recommendations to solve some of the problems that came with deregulation will then be considered to conclude the chapter.

The Introduction of the “Gateway program²⁰⁸” in the 1990’s, aimed at raising Ghana to a middle income country. It proposed a shift in government policies to relax restrictions and regulations affecting entry into various industries to encourage private

²⁰⁷ Paul Dempsey, Andrew Goetz, *Airline Deregulation and Laissez- faire Mythology*, 324

²⁰⁸ The Government of Ghana launched the vision 2020 programme with the overriding objective of making Ghana a middle income economy by the year 2020. Part of the programme also seeks to make Ghana 'Gateway' to West Africa. To achieve this a Trade and Investment Gateway Oversight Committee was formed and a number of organizations are undergoing changes to improve their customer focus. Under the 'Gateway Programme', as it is popularly known, certain identified organizations including the Ghana Civil Aviation Authority (GCAA) are required to undertake measures designed to attract export-oriented investors or firms, tourism and facilitate trade in Ghana in order to accelerate growth.

participation. In the aviation sector, this resulted in an increase in Bilateral Air Services negotiations between Ghana and various countries followed by an influx of foreign air carriers operating into the country. The domestic airline industry was also affected by deregulation. It was characterized by numerous applications by prospective entrants. Some of these new air carriers were issued licenses to operate mostly internally and into the West African sub region. Only one carrier was given the license to operate internationally into the USA, in addition to the national carrier, Ghana Airways. Their operations appeared smooth at the onset but subsequent developments proved otherwise. The majority ceased operations after financial and economic difficulties e.g. transfer of funds and inadequate infrastructure brought their operations to a halt.

The relevant rules and regulations as well as the procedure for licensing carriers will be stated, followed by the situation after the government relaxed the restrictions to encourage private participation. It is noted with regret however that the majority of these airlines did not survive in the deregulated environment and reasons for their demise will be stated. The concluding portion will focus on lessons learnt and recommendations to help make the Ghanaian airline industry a buoyant one.

Under the original restrictive regime, it had not been possible to operate completely privately owned air line businesses in Ghana. The Air Transport Licensing Authority created by an Order in 1959 (and later replaced by a Presidential Order ;1961) with the Ministry of Civil Aviation²⁰⁹ was then empowered by Section 1(a) "To appoint with prior approval of the president, the members of the authority. The Authority was enjoined to issue Air Carrier Licenses to enable airlines operate for reward or in connection with any trade or business.

It performed the following functions

- (i) the negotiation of bilateral air services agreements and all matters connected with them

²⁰⁹ Now The Ghana Civil Aviation Authority.

- (ii) setting out the conditions which might be attached to air transport licensing.
- (iii) Fixing and approval of tariffs
- (iv) Keeping of civil aviation statistics.

Its mission under Section 9(3) was the coordination and development of air services with the object of ensuring the most effective service to the public while avoiding uneconomical overlapping. The 1986 act that repealed the 1958 Act gave the A.T.L.A the authority to issue ACL's²¹⁰ with the cooperation of the Ghana Civil Aviation Authority.²¹¹ The following factors and requirements influenced the final decision.

- (a) The existence of other air services in the area through which the proposed services were to be provided
- (b) The degree of efficiency and regularity of air services if any already provided in that area whether by the applicant or by other operators.
- (c) The period for which such services had been operated.
- (d) The extent to which it was probable that the applicant would be able to provide satisfactory services.
- (e) The financial resources of the applicant.
- (f) The type of aircraft to be used for the proposed services.

To qualify for such a license, the applicant had to be a citizen of Ghana. If it was a corporate body, it had to be registered in Ghana with 2/3 of its shareholders being Ghanaian citizens. The applicant had to satisfy the authority through interviews and inspections that it had sufficient financial resources especially at the early stages of operation to cover large expenditure on equipment, facilities and manpower. This was to be in the evidence of a bank deposit or guarantee of a specific sum which would

²¹⁰ Air Carrier Licenses

²¹¹ The Ghana Civil Aviation Authority (GCAA) was established by PNDC Law 151 of May 16, 1986, as the regulatory agency of Government on air transportation in Ghana. Its development dates back to 1918 when the idea of aerial transportation for the then Gold Coast was conceived. Starting as a unit within the Public Works' Department in 1930, it was granted Departmental status in 1953 under the Ministry of Transport and Communication and remained a department until May 16, 1986 when it assumed the status of a corporate body under the Ministry.

readily be available for contingencies e.g. debts. The proposed service had to meet a need or demand and should be in the Public Interest. If the carrier intended to offer international services, these should be in conformity with Bilateral and Multilateral air agreements relating to traffic rights, frequencies and capacity among others. The type of aircrafts, tariffs, routes, stops and particulars of arrangement as well as an acceptable comprehensive insurance policy were integral requirements. The requirements could have been satisfied by a private entrepreneur but prevailing economic and political situations in the country made it almost impossible to bring such notions to fruition.

To promote development in the aviation sector, The Ghana Civil Aviation Authority²¹² was charged with the following functions;

- (I) To operationalize a liberalized skies policy to attract more airlines and flights into Ghana
- (ii) To Increase private participation in the airport infrastructure and in the
- (iii) development of airport facilities in Ghana into a regional hub for passengers, cargo and express delivery service
- (iii) To Design and implement aviation sector strategy.

Airlines operating in a deregulated regime, must of necessity have economic development plans, with strategies to promote growth, attract and retain their clientele, and earn sufficient revenue to keep them in business. To sustain a viable airline industry, issues of pricing, capacity, competition, from other forms of transport, e.g. land and rail, quality of service, target markets, level of business activity in the prospective markets, as well as the wealth of the population base must be considered. The Failure to assess running costs and accurately predict the level of patronization, may result in losses or eventual bankruptcies as evidenced by the Ghanaian situation shortly to be illustrated. It was characterized by exuberant and prolific entry. Optimism took the place of careful

²¹² The Gateway programme has outlined three projects under the civil aviation component of the programme. GCAA is required to re-focus on its core responsibility as an independent and financially independent, regulatory authority. This will require a major redesign and restructuring of the current organization, legislative and regulatory amendments. The objectives of the re-organized GCAA will be to: Maintain a high standard of safety regulation, establish high levels of safety in all aspects of civil aviation in Ghana, establish a leading role for GCAA in safety regulation and air traffic services support in the sub region, provide the required resources to meet these objectives, prepare The Kotoka International Airport (KIA) for privatization and to make recommendation for the future management of the domestic airports and airstrips and develop and introduce the Government of Ghana's policy of Liberalized Skies.

analysis, and little or no attention was paid to developments and incidents in other jurisdictions which had gone through deregulation especially due to the fact that the last three decades have seen the rise of doubts about the necessity and effectiveness of absolute deregulation. The majority of the entrants failed but a critical analysis shows that these could be considered as teething pains. With better supervision on the part of licensing authorities, and reliance on expert advice from financial institutions and entrepreneurs, a viable industry could be established, to make the Kotoka International Airport, the hub for Africa as envisaged by its management.

The aircraft and the state of nationality.

The Chicago convention in Article 12 places on the state of nationality the duty to inspect aircraft and ensure compliance with internationally approved safety standards . It provides as follows;

“Each contracting State undertakes to adopt measures to insure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating to the flight and manoeuvre of aircraft there in force. Each contracting state undertakes to keep its own regulations in these respects uniform , to the greatest possible extent, with those established from time to time under this Convention”

This is especially important because of the international character of aviation. There is a corresponding duty placed on space faring states by the 1967 Space treaty, The liability convention and the Registration convention. This duty is created from the internationally accepted principle that states have sovereign control over their territory and the airspace above it. States are therefore obliged to ensure that objects from their territories moving into other areas are safe for the purpose. State Regulators perform these duties by inspecting aircraft and laying down the procedures to be followed by air carriers to satisfy internationally accepted standards for operating.

The Ghana Civil Aviation Authority was thus faced with the prospect of inspecting a

number of aircraft intended to offer aviation services to the public.²¹³ It soon became obvious that not all the applicants would be able to provide satisfactory services even if granted licenses. Besides some of the aircraft they proposed to rely on were unacceptable for travel especially in turbulent weather. The practice of dumping antiquated aircraft, incapable of passing present western tests of airworthiness in developing countries became a reality. For relatively small sums of money, potential carriers were able to purchase or lease aircrafts for business purposes.

The Authority was faced with criticisms that ranged from refusing to grant licenses to potential businesses because of alleged political affiliation among others and it became apparent that as necessary as the proposed services were, there was also the need to regulate entry into the industry so as not to allow "fly-by-night" services to damage the budding curiosity that these new airlines had created in the minds of the Ghanaian public.

GHANA AIRWAYS

Operation of domestic air services in Ghana, commenced with the national airline Ghana Airways, in the late 1970's. State owned and operated it trained its own crew and flight attendants, after the establishment of the Ghana Airways Training school. Initially it relied on propellers and turbo props to operate scheduled flights to and from the major cities²¹⁴ Accra, Kumasi, Sunyani, Tamale and Takoradi, very successfully. In the early 1980's the airline changed its aircraft type from propeller to all jet aircraft- F28. The operating costs of these aircraft could not be supported by the short haul flights carried on domestically. The result being that the airline's international operations virtually subsidized the domestic services.

²¹³ This duty is primarily performed by the Department of Safety Regulations, The overall objective of the Department is to have the personnel and equipment to carry out safety oversight functions in Ghana in accordance with the National Regulations and ICAO Annexes 1, 6 & 8. To achieve its objectives, the Department intends to identify all operators through the certification of all new airlines, carry out regular inspections of the operators, before and after the issue of Air Operators Certificate (AOC).

²¹⁴ Ghana being a developing country, the average income makes it virtually impossible to fix domestic aviation charges at rates that reflect the actual cost for the provision of the services.

In 1983 Ghana Airways pulled out of the domestic market completely and concentrated on providing purely international services. The implication being that there were no domestic aviation services in the country and all travel was limited to road, rail and boat.

AIRLINK

The departure of the national airline from the domestic scene created a complete vacuum. This gap was filled by Airlink²¹⁵. The Ghana Air force as part of its military operations, transported officers and other staff to and from their various regional posts using military aircraft such as the F27. To fill the void created by the exit of Ghana Airways, Airlink commenced domestic scheduled services as a public service. It provided scheduled on time departures and arrivals to and from the regional capitals and became the most successful domestic service provider in the country, this is evidenced by their 15 year existence on the Ghanaian market.

Operating with military precision Airlink soon became very popular and successful. Its services were reliable and it was well patronized. Airlink's equipment, crew and other inputs were provided by the Ghana Air force, the pilots salaries and other associated charges were not directly dependent on its revenue. Its charges were fixed at levels considered affordable to the populace and not strictly to cover operational costs. Airlink set the standard in the minds of the general public as to what reasonable airfares should be and this created distortions in the industry's pricing mechanism because their lower fares led to dominance on the market. Arguments against their continued operations were met with counter arguments to the effect that they were merely performing a public duty and would eventually pull out of the market after they had set the stage.

MFRAMA²¹⁶ (GOLDEN AIRWAYS)

This was a private venture between a Ghanaian and his Soviet Partners. They were the first privately owned domestic airline to operate in Ghana. They commenced operations in October 1996, providing services to and from Accra, Kumasi and Tamale. Mframa

²¹⁵ Following the accident that resulted in its withdrawal from the market, it has come to light that being a military operant, Airlink did not have sufficient insurance coverage to cater for all the damages sustained by passengers on board.

²¹⁶ An adaptation of the akan word "Mframa" which translates as wind or air.

relied on an old Russian airplane, Antonov 24, which was not very popular with the traveling public.

In June 1997, after only eight months of operation, a controversy arose between the partners, about insufficient funds, difficulties with currency transfer²¹⁷ and unpaid lease charges. Despite attempts at liberalizing the Ghanaian economy, the country retained restrictions on financial transactions. It was virtually impossible to transfer funds out of the country, especially the kind of funds needed to keep an airline in operation such as lease payments. Whereas money could be sent into the country through reliance on Western Union Money Transfer, there was no such commensurate service to send money out of the country. To the foreign business partner outside the country, such allegations probably appeared to be attempts at fraud and deception.

The Russian partners under the pretext of routine maintenance, sneaked one aircraft out of the country and never returned it. The Ghanaian partner obtained a court injunction to prevent the removal of the second aircraft. The airline folded up in June 1997 and the aircraft remains parked at the Kumasi airport.

FAN AIRWAYS

Fan air was also privately owned. It entered the market in June 1997 when Mframa folded up. It operated to and from Accra, Kumasi, Tamale, Bolgatanga, Sunyani and Takoradi with two Beechcraft 1900 aircrafts.

Having the patrons of Mframa already available to use its services it had no problems with capacity on the routes served by its predecessors. Services to Takoradi and Sunyani were withdrawn for lack of patronage, poor weather conditions and inadequate infrastructure e.g. aerodrome facilities²¹⁸. Fan Air concentrated on the older routes instead of developing these new routes as an additional future profit maker. Fan Air sought and was granted traffic rights to Abidjan in La Cote d'Ivoire. The out-of –

²¹⁷ Ghana still maintains some restrictions on currency transfer and these posed problems for aircraft operators. Besides no specific provisions were made to accommodate or facilitate the payment of foreign lease and maintenance charges.

²¹⁸ The Takoradi and Sunyani aerodromes are poorly maintained and their air strips are in dire need of resurfacing.

country destination, it was hoped, could provide sufficient returns to keep it in business and take care of its operational costs. It commenced operations on this route in the second quarter of 1999 with two flights daily. This was reduced to one flight twice a week after four weeks of operations. It was faced with similar problems as those which drove Mframa out of business. In August 1999, the aircraft leasing company came to Ghana and repossessed the aircraft for non-payment of leases charges. With no aircraft, their operations came to an end.

MUKAIR

Joint ownerships with foreign partners, appeared to be a popular way to set up and operate airlines, in Ghana, and Mukair was no exception to this. It was a joint venture between a Danish Non Governmental Organization; Danida²¹⁹, and a Ghanaian partner. This partnership appeared to be headed for success especially because the foreign contributor had been present in the country for a while and was aware of the country's peculiar economic issues. It entered the market in December 1997 with operations to and from Accra, Kumasi and Tamale using a Jet Stream 31 aircraft. The only error in judgement was the fact that the aircraft had Danish registration and the crew was paid expatriate salaries. This put them at a great disadvantage in terms of competition in the area of air fares. Poor revenue and under patronization caused by their inability to compete in the fare market rendered the airline an unviable venture. The Danish partner withdrew the aircraft after about six months of operations.

ASHANTI

Since it commenced operations about six years ago, Ashanti²²⁰ has offered unscheduled services especially corporate charters both within the domestic Ghanaian market and also short haul charters to the neighboring west African countries.

²¹⁹ Danish International development agency, it aims to Reduce poverty in developing countries A number of crosscutting themes are built into DANIDA's development assistance: women's participation in development, the environment, promotion of democracy and observation of human rights. These crosscutting themes are integrated into DANIDA's development activities more generally. Countries in which DANIDA currently works are: Bangladesh, Benin, Bhutan, Bolivia, Burkina Faso, Egypt, Eritrea, Ghana, Guatemala, India, Kenya, Malawi, Mozambique, Nepal, Nicaragua, Niger, Tanzania, Uganda, Viet Nam, Zambia, and Zimbabwe. http://www.safemotherhood.org/smrg/agencies/bi/bi_danida.htm

²²⁰ Created to facilitate the functioning of the Ashanti Gold Fields Corporation, especially because air carriage of gold bullion was considered safer than road transportation

It was mainly commissioned to carry gold bullion from the Obuasi gold mines and to transport some mine employees. It is still in operation but is not licensed for scheduled services .

CTK NETWORK AVIATION AND AERO SURVEYS

Currently split into two units, CTK Network Aviation and Aero Surveys, its services included aerial photography for urban and rural planning , mapping and road construction and infrastructure development. CTK Network Aviation Managed by Ghanaians and Dutch partner have been providing charter services within Ghana and to the West African sub region. It has recently being granted a license to operate scheduled flights to and from Accra, Kumasi and Takoradi after satisfying all safety requirements.

WABASH²²¹

This airline commenced international operations on the 4th of July 2000. It aimed at providing services to and from Accra, New York and Washington DC. The only other airline operated by Ghanaians to be granted a license to operate internationally from Ghana, in addition to Ghana Airways. In their excitement the airline failed to accurately predict the outcome of its rushed decisions. The funding required to provide international long haul services, the amount of advertising needed to fill an aircraft etc were miscalculated. It scheduled the day chosen by the national airline to provide its maiden service to Washington D.C. as the day for its first flight to the U.S. as well. Competition with an old service provider has never been easy and requires careful planning and scheming and this requires time. It is virtually impossible to compete with and overcome a dominant carrier if the one is offering a similar or the same service at a similar price and Wabash made the mistake of not considering this issue carefully. After incurring losses on its maiden voyage²²² because of under patronization , the majority of

²²¹ The first Airline to be granted a license to carry on scheduled international services from Ghana , in which the state had no equities or shares

²²² An error in judgment led this new airline to schedule its maiden voyage to the United States coincide with the national airlines maiden voyage to Washington DC. The flight was under patronized and the losses took the airline out of business

its passengers were transferred to the national carrier Ghana Airways for their return journey and has not been revived.

SOBEL AIR

A joint venture between a Ghanaian and an Indian partner, Sobel Air is one of the new airlines recently granted a license to operate domestic services in Ghana. 51% of its shares are owned by the Ghanaian share holder with the other 49% vested in the foreign partner. An obvious departure from the 2/3 majority required under the regulated regime, there are hopes that this new flexibility in ownership might facilitate endurance .

OBSERVATIONS

Various reasons caused the domestic airlines to fold up. The following however seem to run through all the examples cited.

- (i) The new airlines could not operate in the deregulated environment effectively
- (ii) The revenue realized from operations could not meet operating costs
- (ii) The lack of proper feasibility studies, in the choice of aircraft e.g. as in the case of Ghana Airways and Muk Air resulted either in over capacity or under capacity.
- (iii) The neglect to pay lease charges led to the seizure of aircraft.
- (iv) Available infrastructure was inadequate e.g. airport facilities.
- (v) Absence of adequate financial /currency transfer services.

To better analyze these points however they will be considered under various headings.

FINANCIAL AND ECONOMIC ISSUES,

The carriers appeared not to have relied on expert opinion and advice at the inception of their businesses. In the exuberance that followed the relaxation of government policies to allow private participation in the aviation sector many failed to realize that the industry is fraught with its own peculiar problems and issues which can never be ignored. To cut even, various mechanisms need to be relied upon. To make profit in the industry requires prolonged study of the potential market, and the provision of services tailored to suit the market. Anything short of that results in under-selling which is

followed by bankruptcy.

Poor business planning in the form of financial inaccuracies, inadequate accounting practices and adhoc pricing techniques resulted in losses and eventual bankruptcies. In arriving at their fare structure, most of these airlines failed to take cognizance of the fact that the aviation has specific fixed charges or unavoidable costs²²³. These must be incorporated into fares to break even e.g. :

1. Aeronautical charges
2. Lease charges
3. Maintenance charges
4. Market salaries for crew
5. Adequate spares for aircraft.
6. Fuel charges

To illustrate their short-sightedness, the following illustration from a domestic Nigerian airline is provided, for a Beech craft 1900 C operating on the Kumasi and Tamale routes.

Assumptions²²⁴

- Aircraft type	- Beech craft 1900 C- (19 seater)
- Number of aircrafts	- 2
-Frequency	- Daily flights to Kumasi, 5 flights to Tamale weekly
- Load Factor	- 70% (13 passengers)
-Block hours	- Acc-Ksi: 1hr18mins, Acc-Tle:2hrs

²²³ Expenses that will as of necessity be incurred so long as an airline provides air services. These are similar to fixed costs which cannot be eliminated for as long as a business continues its operations, e.g. administrative costs

²²⁴ The costs that an airline will incur so long as it decides to remain in service e.g. administrative costs. This has no relation to avoidable costs that are directly linked to the expenses incurred for the provision of services on specific routes.

40mins

- | | | |
|------------------------|---|---------------------|
| - Profit Margin | - | 8% |
| - Crew requirements | - | 6 pilots |
| - Average aircraft use | - | 2400 hrs per annum. |

Total cost per block hour for 2 aircraft	2443.70
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The total cost per block for 1 aircraft will be **\$1221.85***

Acc/Ksi/Acc @ = \$ 1589.00

1hr 18 mins

With load factor of 70% **= \$ 123.00 per passenger**

(viable fare)

(13 passengers)

$$\text{Acc/Tml/Acc } @ = \$3177$$

2hrs 40 mins

With load factor of 70% = \$245 per passenger

(viable fare)

(13 passengers)

Operators however charged the following rates

FARES FOR 1996 (FAN AIRWAYS)

ROUTING	ONE-WAY	RETURN TRIP
ACC-KSI-ACC	\$50	\$95
ACC-TML-ACC	\$80	\$125

The high cost of operation as against the low revenue was also contributed to by the level of inflation in the country. The low value of the cedi as against other international currencies made it almost impossible for carriers to quote reasonable fares in the

Ghanaian currency as this was well beyond the reach of the average Ghanaian. These compromises led to other problems, lease obligations could not be met and some of the aircraft were repossessed by the leasing companies. Crew salaries for some of these airlines were at international rates and it was virtually impossible to obtain sufficient revenue from domestic operations to cover these costs effectively.

INFRASTRUCTURE

The country did not have the infrastructure²²⁵ base to support the domestic airline industry and this took a toll on operations. Regional airport facilities were in need of rehabilitation, and the unavailability of sufficient technical support systems took a toll on the air carriers. There were inadequate local maintenance facilities for the aircrafts operated by these domestic airlines. The carriers were therefore compelled to take their aircrafts out of the country for scheduled maintenance services at prohibitive costs .

In addition to the above, there were no re-fuelling points at the regional airports. Operators were forced to cut down on pay load or carry fuel on board, a dangerous and illegal practice.

Landing and lighting charges in Ghana are higher than those in the sub region. This compounded the problems of operators who were already faced with crippling financial obligations.

In effect it can be said that operators did not undertake comprehensive feasibility studies which could have highlighted the potential problems, made attempts at correction before commencing operations.

AERODROME FACILITIES

The absence of re-fuelling facilities at the regional airports and aerodromes was one of the sources of concern for past operators. Carriers were under those circumstances compelled to use dangerous methods to transport fuel, or reduce their pay load. In an

²²⁵ Tamale airport, and Sunyani airstrip both open dailiy, only from 6a.m. to 6 p.m. has no post office and

environment where capacity accounts for continued operation any situation that affects the ability of the carrier to transport all available passenger needs immediate attention.

Availability of re-fuelling stations must be considered as basic infrastructure for a viable aviation industry. The ministries responsible for transport and energy could consider investing in the basic infrastructure necessary to maintain a viable domestic airline industry. An arrangement with the major fuel providers in the country could result in the provision of fuel at all the regional airports and aerodromes to service the aircraft used in domestic operations.

The Takoradi airport for instance is in need of rehabilitation, being a timber export centre the existence of a viable transport industry could boost business in the area. The same can be said of the Obuasi air strip. Obuasi being a major gold mining centre in Ghana.

The issue of aerodrome charges is very relevant to any discussion involving the failed domestic operators. The main reason being that some of these airlines ceased operation because they were unable to meet landing charges etc. Perhaps as an incentive to develop air services, aerodrome and terminal charges could be reviewed downwards, subsidized or suspended for the first few years of operation to enable investors recoup some of their losses before commencement of payment of these charges.

TECHNICAL SUPPORT

The absence of adequate maintenance facilities in the country implied that most of these domestic operators were compelled to seek maintenance and servicing of their aircraft overseas. They were unable to keep up with charges. Apart from being a drain on their already meagre resources, this was a threat to passenger and crew safety, due largely to the fact that some operators could have been tempted to operate without the necessary maintenance thus putting the lives of passengers at risk. The provision of hangar facilities by the Airport Authority to accommodate up to F27 size aircrafts could bolster the existing local maintenance facilities, reduce operational costs for carriers and

no re-fuelling services, and no immigration services.

safeguard the safety of the flying public. The issue of the types of aircrafts brought into the country must also be considered. Being available at affordable prices old and under-serviced aircraft are sold to airlines in developing countries. This may pose a threat to safety and may also affect their international operations, because of new noise and safety standards. It is recommended that a technical team to inspect all aircrafts imported into the country to ensure compliance with safety and security regulations and to protect the lives of the traveling public should be set up.

In the light of the current activity at the main International Airport, congestion has already become an issue. The attempts being made by the Ghana Civil Aviation Authority to develop a separate terminal for domestic operations²²⁶ is a noteworthy one. Efforts at expanding and renovating the airport to accommodate the expected traffic is also commendable.

OPERATORS

As a further supervisory function towards the development of a new industry, operators obligation to submit financial reports to ATLA/GCAA may help with data collection in the new industry and also help the authority better improve the performance of its advisory and licensing functions.

FOREIGN INVESTMENT, OWNERSHIP AND CONTROL

The Chicago convention, discourages designation to a carrier not owned and controlled by one state. This provision affects the level of investment allowed foreigners. The law in Ghana presently has been relaxed to allow foreign ownership up to 49% as against the previous 33%. Even though this is sometimes thought of as controversial and unacceptable it seems to be one of the ways of raising capital for an industry that requires more financial investment than can be raised by Ghanaians. Arguments about national security and defense are always raised to counter suggestions to permit increased foregoing investment in the aviation sector. It must be emphasized however

²²⁶ Phase II of the Kotoka International Airport Rehabilitation Project, commenced towards the end of 1998 by the Ghana Civil Aviation Authority, aims to expand and refurbish the International and Domestic Check-in Areas to accommodate increase in patronage

that states currently retain the power to revoke an airlines designation for international travel if it is believed that ownership and control are vested in foreigners. The duty therefore rests on states to perhaps amend existing regulation to reflect current global trends and still ensure that intergovernmental restrictions will prevail to prevent foreign ownership from exceeding acceptable national policy levels. The concerns in this area are mostly with respect to national security and the availability of the fleet to come to the aid of the government in the event of emergencies. Just as conditions and concessions are granted in other areas of international cooperation to facilitate development, so also national policy guidelines may be provided, insisting on the inclusion of provisions enjoining foreign shareholders to allow national fleets to be used in times of national emergency and disaster.

BANKING AND FINANCE

The most prevalent issue that affected airline performance and viability on the domestic market was the availability of funds. It will therefore be well appreciated by all operators if the central banks could provide financial services to these new operators. In situations where the companies had the funds available to take care of their financial obligations, there was no mechanism to ensure fast and reliable transfer of foreign currency out of the country to meet their requirements.

ATTEMPTS AT REVIVAL; REGISTRATION AND LICENSING

The application process for an air carrier license involves the submission of business proposals by the prospective carrier to the National Security Board for clearance. This is followed by an interview. The application is published in the gazette giving objectors the opportunity to air their comments. The carrier subsequently interviews with the A.T.L.A. and if found fit, willing and able to provide the said service, is granted the license to operate. Due to the problems associated with the first attempts at deregulation, suggestions of re-regulation²²⁷ have been made, some more stringent than the previously

²²⁷ It has been suggested that no human endeavor is capable of functioning effectively in a free environment. Strict regulation has been said to provide the necessary framework to guarantee effective operation especially in the airline industry which has a huge potential for anti-competitive practices which usually bankrupt some businesses.

existing system. This is not necessarily the solution to the problems. Even though some amount of supervision and regulation is required in most human endeavors.

Credence is taken of the steps taken by A.T.L.A.A. and the G.C.A.A. to increase their involvement, participation and supervision of the domestic airline industry. The change in proceedings is most welcome as it facilitates greater interaction among all stake holders and serves as a forum for brainstorming to solve the problems that plagued the first attempts. The continuing relationship envisaged between A.T.L.A. and the prospective airlines, will also ensure continued monitoring and perhaps some guidance and protection not only of the business mans investments. It could perhaps create greater confidence in the public of the reliability of these airlines and make them attractive enough to attract the foreign investment capital and expertise that could keep them in business.

The process for acquiring the Air Carrier Licenses and the Air Operators Certificate have to be well documented. Currently the Air Transport Licensing Authority is composed of members from The Ghana Civil Aviation Authority, The Ministry of Foreign Affairs, The Ministry of Transport, The Ghana Tourist Board, The Attorney Generals Department and Ministry for Justice, Ghana Airways Limited, The Ministry of Defence, This body reviews applications of prospective airlines, analyses their business plans and financial status, inspects aircraft types, meets with the crew to determine whether the carrier is fit and able to perform the duties intended. Reliance on good faith has proved to be insufficient. Physical evidence of the existence of their requirements is now necessary to pass the test. After the fitness test, A.T.L.A. then makes a recommendation to the Minister for Transport, either requesting that the operators license be issued or be withheld until the prospective carrier satisfies all necessary requirements. As a guarantee for debts which operators may not be able to meet in the course of their operations e.g. accumulated landing fees, fuel bills etc, operators are now required, as a condition for issuing the Air Operators certificate to deposit a specified amount in a bank for meeting these obligations in the event of insolvency. The G.C.A.A. requests full supervision of the disbursement of this sum in times of operational crisis.

The present regulatory regime is comprehensive enough. The issues are in the area of procedure; ensuring compliance and conformity. It is suggested that improvements in supervision through the increase in workforce may help the Air Transport Licensing authority discharge its functions effectively.

Air Carrier Licenses have recently been granted to two domestic airlines, CTK Network Aviation and Sobel Air Ghana to provide scheduled services. They have not as yet commenced operations. A.T.L.A. and the G.C.A.A. are however playing a more involved role in the licensing process. In addition to the initial financial requirements, the Authority may call for other documentary proof of the applicants financial viability and general fitness to operate successfully. E.g. audited accounts, cash flow forecast based on market surveys and projected balance sheets.

Operators are expected to submit monthly flight records, giving details of all flights undertaken during the previous month to the Director General of the Ghana Civil Aviation Authority. These reports are to reflect the profit and loss accounts for each month as well as audited accounts. Economic Regulation staff²²⁸ may be required to carry out periodic inspections at the operators bases of business or at his agents bases twice a year to assess the situation and make recommendations for improvement where necessary.

CONCLUSION

The move to encourage private endeavor in aviation was initially aimed at providing services to all parts of the country at reasonable fares, giving travelers options, between road and air transport. Unfortunately most of these airlines collapsed due to inadequate preparation by the investors. To revitalize the industry, there is a need for all stake holders to provide the basic infrastructure and approach the development of this area in a realistic and practicable manner. The assumption has been that domestic services will be

²²⁸ Appointed by the G.C.A.A. and A.T.L.A. to visit official places of business, to assess viability and general fitness of the carrier to performed the services for which they have been licensed. Failure to satisfy all requirements may result in the revocation of licenses or in sanctions placed on the air carrier to remedy the situation in order to remain in business.

patronized but there has not been much concentration on adequate pricing and this must be done to ensure future success and viability. It is obvious that although a liberalized regime that facilitates the development of new carriers is essential to the development of a viable aviation industry, it is not entirely sufficient. The Civil Aeronautics Act was enacted to shield the air transport industry from the hostile economic forces prevalent in an unregulated economic environment so that the industry could enjoy the stability required for the acquisition of capital and long term growth.²²⁹ In the same manner perhaps to protect its flailing aviation industry Ghana may require similar legislation. Transportation is of such vital importance to the public welfare and the business is so affected with the public interest that some measure of government regulation is ...necessary²³⁰.

²²⁹ Senate Hearings on S. 3659

²³⁰ Regulation of Transportation of passengers and Property by Aircraft, Hearings on S.2 & S.1760

CHAPTER 7

NEW THREATS

"...High rise office employees shiver with dread as they begin their morning elevator ascents. Nervous business travellers brace for long security checks at airports. Children in school yards and daycares watch with anxious eyes as their parents drive away to work .In the wake of ... terrorist attacks, the mundane activities that make the global economy function have become more wrenching and more fragile. The march of globalization, much heralded by management books, has not been halted, but it is undergoing a serious reality check. In important and trivial ways, business life will not be the same..."²³¹

Current events and developments in the US have created the impression that new and unexpected²³² security threats, unprecedented and unpredictable may affect the industry. The focus primarily when issues of aviation safety and security were being discussed in the past was on how to reduce the incidents of airplane crashes, hijacking and reduce the threats to life on board aircrafts in flight.

Despite efforts being made to make aviation safe for all patrons, the events of September 11th , 2001 have added a different dimension to the aviation industry. The world has been exposed to new aviation security issues; the use of aircrafts as weapons of destruction. After successfully gaining control of airplanes in flight, the terrorists flew them into highly populated and sensitive targets, namely the twin towers of the world trade center, and the Pentagon, the seat of the United States Government. The aim was not only to terminate the lives of persons on board the aircraft, but also to destroy lives and property on the ground at a scale never before witnessed outside a warring situation.

The various conventions which apply to the subject of unlawful interference with civil aviation have proved only marginally effective to deal with this new situation. They have

²³¹ Gordon Pitts, Attacks will mean radical change for workplaces and families, The Globe and Mail, Sept. 15,2001

²³² United Nations General Assembly, " Measures to Eliminate International Terrorism" Report of the Secretary General (A/56/160 and Corr and Add. 1) Fifty-sixth Session, Sixteenth Plenary Meeting, October 3, 2001, <http://www.un.org/documents/ga/docs/56/pv/a56pv16.pdf>

been effective only to the extent of nurturing existing values of international law as they are restrictively perceived through the parameters of air law. Article 1 of the Chicago convention provides as follows;

"...every state has complete and exclusive sovereignty over the airspace above its territory..."

Even though states have control over their air space, it has become apparent that there are some lapses in the enforcement or supervisory process. The fear has always been that international travel is usually the medium through which terrorists operate. The world has been proved wrong. The terrorists in the September 11th attacks were on board domestic airlines, traveling inter-state. Their actions revealed that they had carefully scrutinized the aviation networks and found the weakest links in the chain.

Whereas international travelers are subjected to checks and searches, domestic travelers in the past did not have to endure any such treatment. The situation appears to have changed dramatically after the attacks and it is believed that states will continue to police the air and prevent potential criminals from carrying out such heinous acts

Aviation Security examines the offense of unlawful interference with international civil aviation. It analyzes critically the legal and regulatory regime that applies to international civil aviation, and recommends²³³ measures that can bring a new approach to solving existing problems. There is a lot of emphasis on action which can alleviate the problem of unlawful interference.²³⁴ Additionally the world needs to spend additional time considering what the potential dangers could be in the future and perhaps create remedies for the problems before they materialize. The current difficulty facing the world is how to prevent repeat incidents and copy-cat crimes of this nature. Airplane manufacturers are considering new ways of reinforcing the cockpits of aircrafts through the use of strengthened partitions, bearing in mind that the pilots may also need to escape the cockpit in the event of a disaster.

²³³ FAA News, Federal Aviation Administration, Washington, DC 20591, November 2001, Fact Sheet - Aviation Security Initiatives Post September 11, 2001 <http://www.faa.gov/apa/FACTSHEET/2001/fact1nov.htm>

²³⁴ Ruwantissa I.R. Abeyratne, Aviation Security, "Legal and Regulatory Aspects", Ashgate Publishing Co., October 1998,

The direction of most think- thanks is to increase security on the ground as a way of preventing potential terrorists from getting on board. Air passengers will have to get used to “Israeli” levels of security in the wake of the terror attacks on the United States.²³⁵ Sir Gilbert Thompson, president of airport strategy at Manchester airport is quoted as saying that

“... passengers would face much tighter security and more delays in the future, because individuals as well as their luggage will be subjected to thorough checks. This is the standard that all governments in the world will be looking at...”

The introduction of stiffer punishments for perpetrators of such heinous acts could also be used to deter potential offenders. Security measures in airports all over the world have been tightened and states appear to have started taking a more active role in aviation security, in order to secure “the weakest link” in the chain so that that weakness is not manipulated by terrorists. There is currently an increase in cooperation between the International Civil Aviation Authority (ICAO) and states to work out new policies for advancing the safety of aviation. The aims and objectives of the Organization as stated in Article 44 of the Chicago convention are to develop the principle and techniques of international air navigation and to foster the planning and development of international air transport so as to:

- (a) Insure the safe and orderly growth of international civil aviation throughout the world;
- (b) Encourage the arts of aircraft design and operation for peaceful purposes;
- (c) Encourage the development of airways, airports, and air navigation facilities for international civil aviation;
- (d) Meet the needs of the peoples of the world for safe, regular efficient and economical air transport;
- (h) Promote safety of flight in international air navigation

²³⁵ Conor Kavanagh, BBC News: “Air Passengers face tighter security”, Sept. 18, 2001, Dublin http://news.bbc.co.uk/1/hi/english/business/newsid_1551000/1551320.stm

- (i) Promote generally the development of all aspects of international civil aeronautics.

It is with the purpose of advancing these objectives that ICAO recently hosted the High-Ministerial Conference at the Headquarters in Montreal. Among the conclusions were the following:

- identification , analysis and development of an effective global response to new and emerging threats, integrating timely measures to be taken in specific fields including airports aircraft and air traffic control systems;
- strengthening of the security-related provisions in the Annexes to the Convention on International civil Aviation using expedited procedures where warranted and subject to overall safety considerations, notably to provide for protection of the flight deck,
- close coordination and coherence with audit programs at the regional and sub-regional level;
- processing of the results by ICAO in a way which reconciles confidentiality and transparency and a follow-up programme for assistance with rectification of identified deficiencies.

In the declaration following the conference the participants, re-affirmed condemnation of the use of civil aircraft as weapons of destruction as well as other acts of unlawful interference with civil aviation. They then went on to stress the need to strengthen measures to prevent all such acts. Notable is the re assertion of the fact that it is the responsibility of States to secure aviation, irrespective of whether the air transport services were provided by the government or private entrepreneurs.

CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

As the world searches for the perfect regime for the aviation industry, it should be at the fore that total deregulation may not always be appropriate simply because regulation seems not to be working. This is due to the fact that a particular regulation may be inefficient simply because of changes in technology. Even modifications in market preferences could render regulation obsolete. What must also be noted is that deregulation is rarely final. It is an evolving process, merely a change from one regime to another, fraught with its own peculiar circumstances.

Certain aspects of the aviation industry it appears will continue to be regulated the reason being that it is an essential facility it is necessary for the continuation of the world order. For this particular reason its development cannot be left completely to market forces. These forces may be allowed to determine ticket prices and the nature and quality of on - board services but issues such as safety and security will continue to be watched closely by sovereign states to guarantee world peace and prevent the occurrence of such events as that witnessed on September 11th in the United States.

Attempts being made to prevent, reduce and correct the problems of the aviation industry are very laudable, however policies that increase the awareness of only some participants may result in lopsided outcomes. What is presently needed is a global plan of action. Prudently administered economic regulation can accomplish the important public policy goal of correcting imperfections in the industry.²³⁶ Above all, the participation of specialized international organizations as well as the airlines themselves should be strongly encouraged; especially in the area of research and formulation of new laws. Expert advice could also assist airlines to contain or reduce within technical and economic constraints the effects of airline operations on the environment. Better training

²³⁶ Dempsey, 'Market Failure and Regulatory Failure as Catalysts for Political Change: The Choice between Imperfect Regulation and Imperfect Competition', 45 WASH & LEE L. REV.(1989)

for airport security staff as well as improved standards for manufacturers of aviation equipment, and the development of better regulations for guaranteeing safety and security of persons on board could all help improve the situation.

In considering the development of aviation security, the states that took part in the High Ministerial conference held in Montreal from February 19 to 20, 2002, noted that the resources needed to meet the enhanced aviation security requirements, may place an undue financial burden on developing countries. ICAO therefore pledged its support to help with the implementation within national territories of the appropriate additional aviation security measures, to meet the level of global threats.

State Subsidization

The issue of state subsidization of the industry is also vital to the continued viability of the commercial air transport business. This is an industry that is now indispensable. States have ratified various international conventions with the aim of supporting the development of international civil aviation and yet because of the prevalence of current global economic policy which favors deregulation and reduced government involvement, states have been reluctant to participate actively in the maintenance of the industry. The turmoil in the industry, has prompted the European Commission to break its own trade guidelines and permit limited state aid for air carriers. This decision will echo through out the aviation industry worldwide, in September, the US agreed on a \$15 billion aid package for its ailing airlines.²³⁷ The fact is that in the absence of government subsidization many airlines will have no choice but to go out of business, this will imply job cuts and a reduction in air services among others. The world has already had a taste of the events to come.

Cut-backs

Airline executives have been accused of relying on the events of September 11, 2001 as an excuse for sacking staff and cutting back fleets. Granted the industry already had

²³⁷ BBC News, Thursday November 22, 'Round-Up: Aviation in Crisis' ; www.news.bbc.co.uk/english/business

problems before the September 11 attacks. Currently there are more empty seats on board aircrafts and this results in a loss of revenue hence the corresponding desire to cut back costs through employee retirements. Ireland's Aer Lingus, announced that it would cut its operations by 25%, sack 2500 or 40% of its workers and make more than 600 temporary staff redundant. Air Canada announced 5000 fresh job cuts on top of 4,000 already announced in August. The airline said it was facing a catastrophic downturn in trade that was forcing it to mothball 84 planes as well as eliminate a quarter of all its jobs, besides it was seeking state aid to survive. Air New Zealand has already been a recipient of state aid, Alitalia reduced its workforce by 2500 and had stopped all new aircraft orders, as part of its plan to reduce losses. The Bankrupt Australian carrier, Ansett, is back in the air after administrators took control to revive the budget carriers services to serve the Asian market. Even the manufacturing giant Boeing, plans to cut up to about 30,000 jobs by the end of next year, this is strongly dependent on new aircraft orders from airlines most of which have put such plans on hold.²³⁸ Japan's biggest carrier JAL, has called for state aid and added surcharge on domestic and international flights to defray insurance costs.

National Action

Countries all over the world are taking a more active part in guaranteeing the safety of civil aviation. The Aviation and Transportation Security Conference Agreement in the US, federalizes aviation screening. This aims at restoring confidence in airline safety and travel. Under the Agreement, the federal government would begin taking over the control of airport screening and security functions. Federal law enforcement agents would be made responsible for the screening of baggage and passengers. It requires all checked baggage to be screened for explosives, and cockpits doors to be strengthened and armed pilots if they are trained, certified and have the approval of the airline.

²³⁸ BBC News, Thursday November 22, 'Round-Up: Aviation in Crisis'; www.news.bbc.co.uk/english/business

Private Participation

The way forward does not exclude private ownership and control as many will be inclined to assume. Private ownership inspires the efficient and economical allocation of scarce resources. What is needed is enlightened regulation, a form of government oversight over managerial decisions to protect public interest values, so that the efficiencies of private ownership can be tapped for the public good and foster the development of those public interest values that do not find a high priority in an environment of total laissez-faire. Moderate alternatives between heavy handed regulation and complete liberalization must be explored. The implication here is that the regime is still evolving but with a change in direction because neither one of the two regimes, mentioned have proved to be the perfect environment in which the industry will thrive.

Foreign Investment

The issue of foreign ownership cannot be left out of a discussion considering the way forward for the aviation industry. When British Airways decided to repaint the tail fins of its aircraft to represent a range of international designs, it was immediately condemned for no longer being prepared to “fly the flag”. This was not a popular move but as a marketing decision it demonstrated that British airways had realized that times were changing in the aviation industry.²³⁹ Air transport is a global public good, and no longer was British airways literally a flag carrier, its was for all travellers wherever they wanted to go. With the current financial situation facing airlines, a lot of cross-boarder consolidation will occur. “...No other industry sector-even our closest strategic equivalent, telecommunications- remains shackled by the notion of national sovereignty and archaic ownership rules...”²⁴⁰

Financing & State Participation

A close look at the financial services industry may help states evolve the right processes

²³⁹ Tom Symonds, „Airlines to Embrace Consolidation,, BBC Transport Reporter, Wednesday Nov. 21,2001

²⁴⁰ Lord Marshall, Chairman of British Airways

for the development of the aviation industry. Beginning in 1933, banking in the United States was heavily regulated. The general impressions of those who lived through the depression was that excessive competition among banks had led them to engage in unsafe practices. The regulations that were imposed affected entry to minimize competition. Interest paid to service users was limited as this was thought to guarantee stability and foster economic growth. The result was that when banks were unable to offer high enough interests to attract savings, their importance dwindled. As pressure grew in the 1970's, ceilings on rates paid to savers and investors were lifted and banks were permitted to offer a variety of new products to their patrons e.g. credit cards. This was achieved through the passage of the Depository Institutions Deregulation and Monetary Control Act of 1980 and the Garn- St. Germain Act in 1982. Whereas banks could respond to market forces in determining interest rates, savings were insured up to \$100,000 by the Federal Depository Insurance Corporation. Bankers were at this stage exposed to the realities of the market system. They were forced to pay higher interests and award riskier loans with a resultant increase in defaults.

The incidence of bank failure increased dramatically. In the entire period from 1942 through 1980, there were 198 bank failures. In 1989 and 1990 alone, there were 362.²⁴¹ The mismatch between prices paid for money and income from lending money was found largely responsible for the "savings and loan crisis" that affected the industry. By the late 1980's the federal government was forced to bail out several banks ...it made good on its promise of insuring accounts up to \$100,000 and also protected depositors whose accounts exceeded that. Basically the government bailed out the financial institutions and that is what may be needed in the aviation industry.

What now needs to be done to improve the aviation regulatory regime can be considered around issues of Public Administration, in other words, how to manage the situation better or "reinvent government."²⁴² This can be re-echoed in the words of Justice

²⁴¹ Timothy Canova, 'The Transformation of U.S. Banking and Finance: From Regulated Competition to Free - Market Receivership', 60 Brooklyn > Rev. 1295, 1330 (1995)

²⁴² David Osborne & Ted Gerler, 'Reinventing Government- How the Entrepreneurial Spirit is Transforming the Pubic Sector' (1992) An important new procedure for considering regulatory options -"negotiated rulemaking" or "regu- neg" - has been

Stephen Breyer who called the matching for regulatory responses to market realities, so as to impose just enough coercion to encourage public-private solutions.²⁴³ Deregulation and privatization have become very popular, and the difficulty arises in determining the level of participation of governments. There needs to be a focus on results, service quality and customer satisfaction.

Who then is to bear the cost of regulation to ensure adequate service, to ensure that patrons are not overcharged, to ensure that services are rendered in a safe environment, to ensure that security standards are complied with, to ensure that service providers do not engage in anti-competitive business practices? Is it solely to rest on the manufacturer to fund research to build better aircraft, equipped with the technological provisions to minimize pollution, should the cost of such improvements be passed down to the airlines that purchase aircraft, and should airlines in turn distribute these costs onto ticket prices during the first few years of operation of new aircrafts. Or is the bill to be borne by the state through subsidization of services?

One possible side effect of requiring such improvements, will be reflected in a decrease for the demand of labor. When a business is forced to incur expenses associated with production, the amount it is willing to pay for the labor used in production may remain the same, a diversion in production cost to improve the product, may therefore result in a decrease in what it is willing to pay to its labor and this may be reflected as job cuts. Regulation seeks to reduce exposure to harmful substances, but we must bear in mind that it is economically as well as politically unrealistic to achieve a risk free environment. Thus there is simply the need to decide what the acceptable levels of exposure to negatives should be and this is a complex and uncertain process. Misconceptions about the capabilities and reliability of regulation have sometimes resulted in a naive over-reliance on regulation as a sure way to achieve results. Rate regulation for instance cannot produce incentives for quality, efficiency or price

codified in the Negotiated Rule lawmaking Act of 1990, 5 U.S.C 581-90

²⁴³ Stephen Breyer, Regulation and Its Reform (January 1982) Harvard University Press,

flexibility produced from competition. It can only seek to ensure that the regulated industry does not make excess profits off its customers.

Regulation can co-exist with substantial amounts of competition. It must however be kept in mind that there is a distinction between economic regulation on the one hand and regulation designed to protect public health, safety and the environment. When the world trade Center is hit, the world shudders. The events will infact spur wider sharing of security resources.²⁴⁴ Airline security has been exposed as severely deficient, it has been privatized and left to sometimes underqualified and indifferent workers. However there need not be a massive re-regulation the result will be a slow reversal of privatization in sensitive areas. As the world continues its search for the perfect aviation regulatory regime, and as changes are made to improve the current situation , we need to remember the following words of Adam Smith:

“...According to the system of natural liberty, the sovereign has only three duties to attend to ... first, the duty of protecting the society from the violence and invasion of other independent societies; secondly, the duty of protecting, so far as possible, every member of the society from the injustice or oppression of every other member of it, or the duty of establishing an exact administration of justice, and thirdly, the duty of erecting and maintaining certain public works and certain public institutions, which it can never be for the interest of any individual, or small number of individuals, to erect and maintain...”²⁴⁵

²⁴⁴ Gordon Pitts, Your new job, your new life, Attacks will mean radical change for work places and families. The Globe and Mail, Sept. 15, 2001

²⁴⁵ The Wealth of Nations, Book IV, Chapter IX

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