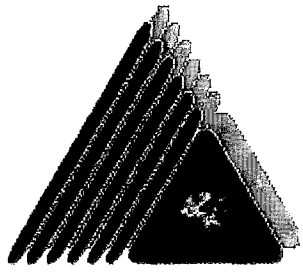

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EUROPEAN UNION AIR TRANSPORT POLICY AND AEROSPACE INDUSTRY

by

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LIST OF ABBREVIATIONS

AA	American Airlines
AC10	Accession Countries
ACP	The Countries of Africa, the Caribbean and the Pacific
ADISR	Association of the Defence Industry of the Slovak Republic
AEA	Association of European Airlines
AECMA	European Association of Aerospace Industries
AETC	Air Education and Training Command
AGS	Alliance Ground Surveillance
AI	Aerospace Industry
APEX	Advance Purchase Excursion Ticket
APU	Auxiliary Power Units
ASD	Aerospace and Defence Industries Association of Europe
ATC	Air Traffic Conference
ATM	Air Traffic Management
ATR	Avions de Transport Régional
BA	British Airways
BAE SYSTEMS	British Aerospace Electronic Systems
BWB	Blended Wing Body
CAA	Civil Aviation Authority
CAAC	Civil Aviation Administration of China
CAB	Civil Aeronautics Board
CAGR	Compound Annual Growth Rate
CAP	Common Agricultural Policy
CASA	Construcciones Aeronáuticas SA

C-ATM	Cooperative Air Traffic Management
CFSP	Common Foreign and Security Policy
CIS	Communications in Information and Systems
CLS	Ceska Letecka Servisni
COMPAS	Competition In Air Services
CRSs	Computerized reservation systems
DAC	Danubian Aircraft Company
EADS	European Aeronautic Defence and Space
EAGGF	European Agricultural Guidance and Guarantee Fund
EAI	European Aerospace Industry
EASA	European Aviation Safety Agency
EBIT	Earnings Before interest and taxes
EC	European Community
ECAA	European Common Aviation Area
ECAC	European Civil Aviation Conference
ECSC	European Coal and Steel Community
ECU	European Currency Unit
EDA	European Defence Agency
EEA	European Economic Area
EEC	European Economic Community
EFTA	European Free Trade Association
EMS	European Monetary System
EPC	European Political Cooperation
ERDF	European Regional Development Fund
ESA	European Space Agency
ESDP	European Security and Defence Policy

ESF	European Social Fund
EU	European Union
EU15	European Union 15 Member States
EU25	European Union 25 Member States
EUMETSAT	European Meteorological Satellite Organisation
EUR	The Euro
EURATOM	the European Atomic Energy Community
FAA	Federal Aviation Administration
FLA	Future Large Aircraft
FP	Framework Programme
GDP	Gross Domestic Product
GE	General Electric
GEC	General Electric Company
GEO	Geosynchronous
GIFAS	French aerospace industries association
GMES	Global Monitoring for Environment and Security
GPS	Global-Positioning-System
IATA	The International Air Transport Association
ICAN	International Commission for Air Navigation
ICAO	International Civil Aviation Organization
IGC	Inter-Governmental Conference
ILS	International Launch Services
IMP	Integrated Mediterranean Programmes
ISS	International Space station
IT	Information Tecnology
JAA	Joint Aviation Authorities

JARs	Joint Aviation Requirements
JHA	Justice and Home Affairs
JSF	Joint Strike Fighter
LOM	Letecke Opravny Malesice
LOT	Letecke Opravovne Trencin
LZ	Letecke Zavody
MEADS	Medium Extended Air Defence System
MIS	Management Information system
MoD	Ministry of Defence
MOU	Memorandum of Understanding
MRO	maintenance, repair and overhaul
NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organisation
NFTC	NATO Flight Training in Canada
OAA	Open Aviation Area
OCCAR	Organisation Conjointe de Coopération en matière d'ARmement
OOTW	Operation other than war
P&WC	Pratt and Whitney Canada
PEX	Purchase Excursion Ticket
PR	People's Republic
PZL	Polskie Zaklady Lotnicze
R&D	Research and Development
R&T	Research and Technology
RAF	Royal Air Force
RMA	Revolution in Military Affairs

RPK	Revenue Passenger Kilometer
RPV	Recoverable Pilotless Vehicle
RT&D	Research and Technological Development
RTD	Research and Technological Development
RTK	Revenue Tonne-Km
SA	Sturm-Abteilung-Stormtroopers
SAR	Synthetic Aperture Radar
SAS	Scandinavian Airlines
SCO	Show Cause Order
SEA	Single European Act
SES	Single European Sky
SITA	Société Internationale de Télécommunications Aéronautiques
SME	Small and Medium-sized Enterprises
TCAA	Transatlantic Common Aviation Area
TEN	Trans-European Networks
TEU	Treaty on European Union
TIPS	Transatlantic Industrial Partnership for Surveillance
UAE	United Arab Emirates
UAV	Unmanned Aerial Vehicle
UDI	United Defense Industries
UK	United Kingdom
US	United States
USA	United States of America
USAF	United States Air Force
USSR	Union of Soviet Socialist Republic
UTA	United Air Transport

V/STOL	Vertical/Short takeoff and landing
VIFF	Vector The Thrust In Forward Flight
VLTSU	Vojensky Letecke Technicky a Skusobny Ustav
WEAG/WEAO	Western European Armaments Group /Organisation
WEU	Western European Union
WTO	World Trade Organization
WW2	World War II

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ABSTRACT

The globalisation process which has been improving with a great speed has helped the boundaries be removed and people get closer to each other. In this environment, transportation vehicles have gained much more importance than usual. The dangerous voyage Christoph Colomb set out in order to discover new continents has become the ordinary part of people's everyday lives in today's world. However, with the increasing requirement for transportation, considerable improvements have been made in the maritime and land transportation, and also air transportation has preserved its prominence as it is still the safest and fastest means of transportation. Especially in our time when international trade is indispensable, air transportation is gradually becoming widespread thanks to the improvement of new technologies and business models and in this direction it is expected that the demand for air transportation will double in ten years' time.

With the end of the Cold War Era, the World Order coming and going between two poles has been superseded by globalisation. The USA has stood out in the globalisation process and the EU is following it as the main rival. In this case, the significance of the EU in the constitution of which most of the developed countries are found, has gradually increased and is involved in the formation of the world. As the EU is becoming more closely involved in the world arena, the communication of the EU both within itself and between the other countries is gradually gaining much more importance. So, air transportation is one of the most important sectors for the future of the EU in the arena of the world.

In this study, it has been endeavoured to discuss all respects of the air transportation in the EU. The significance of the air transportation and the policies of the union in this respect since the foundation of the EU up to now has been analysed. And then the transportation sector has been analysed with its sub-sectors in detail and it's endeavoured to make understand the place of the EU in the world. Later, the process of expansion of the EU and what this means for the air transportation have been touched upon. Finally, the analysis of where the air transportation is going towards in terms of the future has been made and the suggestions on what can be done for increasing the importance of the EU in the world in

terms of air transportation have been put forward in this environment.

The purpose of this study is to grasp the prominence of the air transportation and to shed light on the policies which can be improved on this issue in the journey of the EU, which begins to become a greater power in the world with each passing day, in which it is becoming the biggest and most prosperous economy of the world. In this study, the air transportation sector of the EU has been analysed in terms of politics, economy and industry without being affected by any political movement, and the impacts of the air transportation on the role of the EU in the arena of the world has been tried to be determined.

The objection of this thesis is to indicate that the air transportation is the basic milestone of the EU's target enlargement in the future and also to present objective ideas to the readers on the precautions which should be taken in terms of air transportation, the policies the EU should improve so that the it can sustain the stability of this development and how it should form its relation with the other countries.

ÖZET

Büyük bir hızla gelişmekte olan globalleşme süreci, her geçen gün sınırların ortadan kalkmasını ve insanların birbirine daha da yakınlaşmasını sağlamaktadır. Bu ortamda ulaşım araçları her zamankinden daha da önem kazanmaktadır. Cristoff Colomb'un yeni kıtaları keşfetmek için atıldığı tehlikeli yolculuk, günümüz Dünya'sında her gün milyonlarca insanın yaşamının doğal bir parçası halini almıştır. Her ne kadar, ulaşıma duyulan ihtiyacın artması ile birlikte, deniz ve kara taşımacılığında da önemli gelişmeler sağlandıysa da, halen en güvenli ve en hızlı ulaşım yolu olması bakımından hava taşımacılığı önemini korumaktadır. Özellikle uluslararası ticaretin vazgeçilmez olduğu günümüzde hava taşımacılığı da, yeni teknolojilerin ve yeni iş yapış modellerinin geliştirilmesi ile giderek yaygınlaşmaktadır ve bu doğrultuda önümüzdeki 10 yıl içinde hava taşımacılığına olan talebin iki katına çıkması beklenmektedir.

Soğuk Savaş sürecinin sona ermesi ile, iki kutup arasında gidip gelen Dünya düzeni yerini globalleşmeye bırakmıştır. Globalleşme sürecinde de ABD ön plana çıkmış, başlıca rakip olarak da onu AB'liği izlemektedir. Bu durumda gelişmiş ülkelerinin pek çoğunu bünyesinde barındıran AB'nin önemi giderek artmış ve Dünya'nın şekillenmesinde söz sahibi olmuştur. AB'nin Dünya arenasında giderek daha da fazla söz sahibi olması ile birlikte, AB'nin hem kendi içinde, hem de diğer ülkelerle olan iletişimi her geçen gün daha fazla önem kazanmaktadır. Bu yüzden hava taşımacılığı AB'nin Dünya arenasındaki geleceği için en önemli belirleyici sektörlerden biridir.

Avrupa Birliği içindeki hava taşımacılığı, bu çalışmada bütün yönleri ile ele alınmasına çalışılmıştır. Birliğin ilk kurulduğu günden bu yana hava taşımacılığının önemi ve Birliğin bu yöndeki politikaları incelenmiştir. Daha sonra hava taşımacılık sektörü, alt sektörleri ile birlikte detaylı bir şekilde analiz edilmiş, AB'nin Dünya'daki yerinin anlaşılmasına çalışılmıştır. Daha sonra AB'nin genişleme süreci ve bunun hava taşımacılığı açısından ne ifade ettiği incelenmiştir. En son olarak da gelecekte hava taşımacılığının nereye gittiğinin analizi yapılmış, bu ortamda AB'nin Dünya'daki önemini arttırması için hava taşımacılığı bakımından neler yapması gerektiğine dair öneriler geliştirilmiştir.

Bu çalışmanın amacı her geçen gün Dünya'da daha da büyük bir güç olmaya başlayan AB'nin, Dünya'daki en büyük ve en ferah ekonomisi haline gelmesi yolculuğunda hava taşımacılığının önemini anlamak ve bu konuda geliştirilebilecek politikalara ışık tutmaktır. Bu çalışmada AB'nin hava taşımacılığı sektörü politik, ekonomik ve endüstriyel açılardan herhangi bir politik akımdan etkilenilmeden incelenmiş, AB'nin Dünya arenasındaki rolüne, hava taşımacılığının etkileri saptanmaya çalışılmıştır. Bu tezin amacı, hava taşımacılığının, AB'nin gelecekte hedeflenen büyümesinin temel yapı taşlarından biri olduğunu göstermek ve AB'nin bu gelişmenin istikrarını sağlayabilmek için hava taşımacılığı adına alması gereken önlemleri, geliştirmesi gereken politikaları ve diğer ülkeler ile olan ilişkilerini nasıl şekillendirmesi gerektiğine dair okuyuculara objektif fikirler sunabilmektir.

INTRODUCTION

During the last 20 years there have been massive changes in the structure and nature of society, resulting in an unprecedented growth in the demand for transport. This growth in demand cannot simply be examined just on the basis of extrapolation of past trends but must now include a wider range of demographic, economic, social and structural factors, all of which contribute to the demand for travel. In the next ten years these factors are likely to increase in their importance as the more advanced countries move towards post-industrial society. National statistics show the increase in living standards, the rise in car ownership levels, the increase in owner occupation, the rise in leisure time, the increase in the number of women at work, and the growth in the service sector and technologically based industries. All these factors are likely to increase passenger transport demand and to change existing patterns. In 1998, Jean-Claude Gayssot, French Minister of Transport declared that:

"The increase in the number of journeys made is unavoidable. It is closely linked to economic growth, and I am convinced that personal mobility is an integral part of liberty."

Air transport is a significant sector in its own right but in providing an important intermediate service helps to stimulate business and more directly facilitates important individual industries such as tourism. It is a fast growing sector but one that has traditionally been extremely heavily regulated. Although if anything social regulations covering such things as safety and environmental effects have been tightened in recent years, the trend has been to significantly liberalize economic controls over pricing, service levels and market entry. The long standing tradition in many countries for their major airlines to be public1y owned is also changing as privatization takes place and commercial carriers are being allowed in traditionally protected markets.

All this has been taking place when the institutional structure of air transport services provided has seen significant developments. The US's deregulation of its domestic markets for air freight since 1977 and for passengers in 1978, combined with subsequent commitments to an Open Skies approach to international aviation in 1979, has changed the

way US policy is conducted but also, through both demonstration effects and direct knock-on effects, the ways in which other air transport markets are now regulated.

The intra-European market is now moving rapidly towards a situation found within the United States. Many European countries unilaterally liberalized their domestic markets while the EU, since 1988 through a succession of Packages, has moved to a position that will leave air transport largely free from economic regulation by the middle of 1997. Air transport in Europe has been highly regulated, based on national sovereignty and non-competing national airlines. Air transport between European countries was typically confined to the national carriers of the countries concerned, with independent airlines excluded from the market as were third-country airlines. The fares charged were agreed upon by the airlines in advance and ratified by governments. Market capacity was also decided in advance, as was its division between the airlines. This regulatory system was frequently criticized because it resulted in high fares and high cost airlines. The fares charged by European scheduled airlines have traditionally been the highest in the world and approximately three times those charged by Europe's charter airlines, which operated under a more competitive regulatory system.

Liberalization measures were introduced between Britain and the Netherlands in 1984 and between Britain and Ireland in 1986. In the remainder of the EC, gradual liberalization has been under way but the results have not been dramatic. Liberalization of the EC market is scheduled for completion in 1997.

Serious difficulties have nonetheless presented themselves in the way of a contestable market in European aviation. These include a series of mergers between airlines which might have been expected to otherwise compete; difficulties in achieving slots at hub airports for new airlines; predatory pricing; computer reservation system bias; ground handling monopolies; frequent flyer programs; and state subsidies to national airlines

Globalization and internationalization are two major industrial trends of the late twentieth century. In line with other sectors, aviation has experienced significant moves towards globalization and internationalization. With market trends and institutional reforms,

combined with rising incomes and increased leisure time, have contributed to the steady growth of demand taking place in aviation markets. Additionally, technology advances have allowed aircraft efficiency to rise and air traffic control systems to handle greater volumes of traffic, thus exerting positive effects on the cost side of the international air transport equation.

As a result, air passenger traffic since 1960 has grown world wide at an average yearly rate of 9% and freight and mail traffic by some 11 % and 7% respectively. In 2000, for example, some 1.5 billion passengers were carried by the world's airlines and in 2015 it is expected that air traffic will be doubled. Civil aviation has become a major service industry contributing to both domestic and international transport systems. It facilitates wider business communications and is a key component in the growth of tourism, now one of the world's major employment sectors.

On the other side, despite this general tendency to the increase of air transportation requirement, airlines are struggling in order to survive in the competitive environment of airline business. Changes in political and economic situations, privatization, deregulation, liberalization, open skies agreements and globalization have forced the airline industry into a new era. These changes increase competition in the airline industry. In order to survive in this competitive environment, airlines attempt to provide better service for consumers by increasing the size of their markets and strengthening their market power in the global air transport market. In addition, the global airline industry suffered enormous financial losses resulting from the sharp decline of air traffic in the aftermath of the terrorist attack on the US on 11 September 2001. Together with the global economic slow-down and the over-capacity and mismanagement of the airline industry to a certain extent, it is no surprise that the airline industry is in its most serious down-turn since the beginning of commercial aviation. It is possible that mergers and acquisitions could occur between air carriers in the near future on a large scale. Indeed, it is the stated objective of the UK carrier, British Airways, which it intends to become a global carrier. In pursuit of wider market coverage and in an effort to enhance their own internal efficiency, other airlines have followed a

similar number of courses. The most recent development, perhaps the most controversial, is the development of various forms of airline alliances.

In this piece of work it is aimed to deliver a profound understanding of air transportation sector in European Union (EU). The main issues addressed revolve around airline operations. However, other aviation matters such as aerospace competition between Airbus and Boeing or on the role of European manufacturers in the military or space applications of aerospace industry. Equally, author is interested in the softer policy issues involving economics and institutional matters rather than the more technical questions that are confronting European policy makers. Geographical domain in this study is EU. Although the main focus is on air services for international markets within the EU, it is totally inappropriate to ignore, for a variety of reasons, the wider international environment where air transport is supplied. Particularly, important features extend beyond the boundaries of the EU. Due to the nature of modern air transport networks, the EU notion of interoperability and interconnectivity must embrace a much wider spatial dimension if it is to adopt scales of production, market strategies and management schemes appropriate to meet the Union's widest economic objectives. Links such as these indicate that the air transport policy of the EU has not grown in geographical isolation but has rather entangled with developments elsewhere. Future policies will need to take these linkages into account. Therefore, global perspective as well as European perspective is taken into consideration in all analysis. By this way, the position of EU in the world arena is given clearly and so the general framework of policy development and strategies of EU become more clearer.

To establish a complete understanding, first, the formation and essentials of EU is analyzed. Then development of EU air transportation policy is mentioned in the light of the developments in the global arena which are briefly mentioned above. In this framework, regulatory institutions and their roles in air transport policy development is also analyzed. After giving a detailed analysis of softer issues, sector is financially analyzed. By giving figures for both EU and world market, the position of the industry is evaluated in details not only for aviation industry, but also for aerospace, military aeronautics and space sectors. Taking into consideration the fact that the economies of Eastern Europe have the potential

to play a significant part in a deregulated aviation market because of their lower labor costs, enlargement process of EU and its effects on aviation business is analyzed. Finally, recent trends in the sector with some guesses for the future are given. In this chapter, some development points for EU in terms of aviation are determined and some recommendations are proposed for the Union.

CHAPTER I

HISTORY OF EUROPEAN UNION WITH ITS AIR TRANSPORTATION POLICY

1.1 OVERVIEW

In today's world countries establish unions for geographical and political reasons in order to boost their economic and social welfare. The common property of these unions is to gather the member countries under the roof of common benefits and protect those benefits. Economic, social and political structures of the countries forming alliances are generally the similar. By the help of these similarities, the aims of firms, the policies they follow toward these aims and the decisions they make are also common. Although EU is first considered to be a union that formed by geographically close countries, its aim is to increase economic and social welfare rather than geographical integration. This chapter is intended to make an introduction to air transportation policy by mentioning the phases it has experienced so far.

The alliances the EU has formed since its establishment will be studied under the title "1.2.2 The Main EU Treaties". In chapter "1.3 Air Transportation Policy Development in European Union" will be an introduction to the development of the air transportation policy. In 1.3.2 "Organizations", the regulating institutions of the world aviation sector will be introduced and the chapter will be ended.

1.2 HISTORICAL BACKGROUND OF THE EUROPEAN UNION

For understanding nature of the European Union air transport policy, initially, main background of the EU ideas, which are about strengthening Europe's economy, the removal of barriers to allow for the free movement of products, labor, and capital in order to reach efficent resource allocation and increase social welfare as well as attain sustainable growth rate must be summarized and focused on.

This part contains the main EU Treaties, impacts of these Treaties to the Union and its importance in the concept of development of the European Union.

In the history, The "Integration of Europe Idea" declared by different states and scholars such as Roman emperors, Napoleon and Hitler. However, the modern history of European integration begins immediately after the Second World War. The states of Europe shared a common interest in restructuring the Continent. The persistent misery of local and regional conflict induced a willingness to seek fresh solutions independent of the old, discredited nation-state structure.As a result of it, integration concept was emerged to solve this problems. Members are unified between each other. The core of integration depends on varius transportation ways, one of which is air transportation that may not be common in the past; however with developing world, increasing social welfare cause Air transportation to put in first place. Today we cannot eliminate airline industry from globalized world. Thus, Air transport and its infrastructure are a vital component of economic interchange, and clearly important in linking peripheral areas of the EU to Europe's economic core, thus bringing a tighter integration of the region. Additionally, air transport will play a crucial role in the regional development of post-Communist Europe and its integration into the pan-European economic space. [1]

In view of this crucial role being undertaken by airline industry, it is seen that air transportation sector needs an institional regulator structure, as EU, which provide economic, social and politic integrity, IATA (The International Air Transport Association) carries these similar responsibilities in air transportation. In other words, IATA has been able to co-ordinate and standardise virtually every aspect of international airline operation [2]

1.2.1 Development of the European Union

Europe has long lived in unions. The reason for that is the similarity of their social and economical structures and their geographical closeness. The Union which was first

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[1] Hall, D. R. , 1993, "Impacts of Economic And Political Transition On The *Transport* Geography of Central and Eastern Europe, Journal of *Transport* Geography", 1, p. 20-35.
[2] Doganis R. , 2002, "Flying Off Course "(3rd edn), 11 New Fetter Lane,London p. 39

established for the benefits of its members has then started to have a role regulating the social life in member countries. In consequence, it has become a broad organization made up of 25 countries and has great influence on world trade and social life.

Before starting to understand European Union's economical, political and social structure, both Europe's and the Union's historical background should be known well. This part contains the chronological history, important events and the treaties that European Union based on.

Europe ideal was living in idea of philosopher and presentiment people before a long dated target in of member's government policies. United States of Europe was part of humanist and peaceful dream. The events, which occurred in first half of twenty century and effect continent hardly, demolished the dream. Establishment of an organization to solve National disagreement occurred in the resistance motion against the totalitarian management during the World War II. Speeding up the totalitarian process, two trends' main supporters, which one is supporter of federation and other one is supporter of functionalist, are Italian Federalist Altiero Spinelli and Jean Monnet who is reason to establish European Coal and Steel Union. Federation supporter approach, base on establishing a dialog and complementary relationship between local, regional and European level force focus. Functionalism supports transferring sovereignty from national level than community level. Both of two ideas, in our days, states are more effective on shared mission like single bazaar, money policy, economic and social approaching, foreign policy and security. [3]

Today's European Union is the result of the hard work put in by men and women working for a united Europe. The EU is built on their concrete achievements. In no other region of the world have sovereign countries pooled their sovereignty to this extent and in so many areas of crucial importance to their citizens. The EU has created a single currency and a dynamic single market in which people, services, goods and capital move around freely. It strives to ensure that, through social progress and fair competition, as many people as possible enjoys the benefits of this single market.

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[3] Pinder J., 1995, " The European Community : The Building of a Union (2nd edn.)", p.7

The ground rules of the European Union are set out in a series of treaties:

- The Treaty of Paris, which set up the European Coal and Steel Community (ECSC) in 1951;

- The Treaties of Rome, which set up the European Economic Community (EEC) and the European Atomic Energy Community (Euratom) in 1957.

These founding treaties were subsequently amended by:

- The Single European Act (1986);

- The Treaty on European Union (Maastricht, 1992);

- The Treaty of Amsterdam (1997); and

- The Treaty of Nice (2001).

These treaties have forged very strong legal ties between the EU's member states. European Union laws directly affect EU citizens and give them very specific rights.

The first step in European integration was taken when six countries (Belgium, the Federal Republic of Germany, France, Italy, Luxembourg and the Netherlands) set up a common market in coal and steel. The aim, in the aftermath of the Second World War, was to secure peace between Europe's victorious and vanquished nations it brought them together as equals, cooperating within shared institutions.[4]

The six member states then decided to build a European Economic Community (EEC) based on a common market in a wide range of goods and services. Customs duties between the six countries were completely removed on 1 July 1968 and common policies ,notably on trade and agriculture , were also set up during the 1960s.

[4] http://europa.eu.int/scadplus/treaties/ecsc_en.htm

So successful was this venture that Denmark, Ireland and the United Kingdom decided to join the Communities. This first enlargement, from six to nine members, took place in 1973. At the same time, the Communities took on new tasks and introduced new social, regional and environmental policies. To implement the regional policy, the European Regional Development Fund (ERDF) was set up in 1975.[5]

In the early 1970s, Community leaders realised that they had to bring their economies into line with one another and that, in the end, what was needed was monetary union. At about the same time, however, the United States decided to suspend the dollar's convertibility into gold. This ushered in a period of great instability on the world's money markets, made worse by the oil crises of 1973 and 1979. [6] The introduction of the European Monetary System (EMS) in 1979 helped stabilise exchange rates and encouraged the Community member states to implement strict policies that allowed them to maintain their mutual solidarity and to discipline their economies.[7]

In 1981 Greece joined the Communities, followed by Spain and Portugal in 1986. This made it all the more urgent to introduce 'structural' programmes such as the first Integrated Mediterranean Programmes (IMP), aimed at reducing the economic development gap between the 12 member states.

At the same time, the EEC was beginning to play a more prominent international role. With the countries of Africa, the Caribbean and the Pacific (the 'ACP' countries) it signed a series of conventions on aid and trade (Lomé I, II, III and IV, 1975-1989) that led to the Cotonou Agreement of June 2000. Instruments such as these enable Europe, the world's leading trading power, to act – and be seen to act – on the international stage. The European Union aims, ultimately, to implement a common foreign and security policy.[8]

A worldwide economic recession in the early 1980s brought with it a wave of 'euro-pessimism'. But hope sprang anew in 1985 when the European Commission, under its

[5] Dankert P., 1983, "The EC - Past, Present and Future", Basil Blackwell, p.17
[6] Weatherill S., Beaumont P., 1999, "EU LAW", Penguin Books, Harmondsworth, Middlesex, England,p.22
[7] Dankert P., 1983, "The EC - Past, Present and Future", Basil Blackwell, p.19
[8] Craig P., Bûrca de G., 1998, "EU LAW", Oxford University Press, New York, p.9

President Jacques Delors, published a 'white paper' setting out a timetable for completing the European single market by 1 January 1993. The Communities adopted this ambitious goal and enshrined it in the Single European Act, which was signed in February 1986 and came into force on 1 July 1987.[9]

The political shape of Europe was dramatically changed by the fall of the Berlin Wall in 1989. This led to the reunification of Germany on 3 October 1990 and the coming of democracy to the countries of central and Eastern Europe as they broke away from Soviet control. The Soviet Union itself ceased to exist in December 1991.[10]

Meanwhile, the European Communities were changing too. The member states were negotiating a new treaty that was adopted by the European Council (i.e. their presidents and/or prime ministers) at Maastricht in December 1991. This 'Treaty on European Union' came into force on 1 November 1993. The EEC was renamed simply 'the European Community' (EC). Moreover, by adding areas of intergovernmental cooperation to the existing Community system, the Treaty created the European Union (EU). It also set new ambitious goals for the member states: monetary union by 1999, European citizenship, new common policies, including a Common Foreign and Security Policy (CFSP), and arrangements for internal security.[11]

The new European dynamism and the continent's changing geopolitics led three more countries – Austria, Finland and Sweden – to join the EU on 1 January 1995. The Union now had 15 member states and was on course for its most spectacular achievement yet – replacing its national currencies with a single European currency, the euro. On 1 January 2002, euro notes and coins came into circulation in 12 EU countries (the 'euro area'). The euro is now a major world currency, having a similar status to the US dollar.[12]

Meeting in Lisbon in March 2000, the European Council adopted a comprehensive strategy for modernising the EU's economy and enabling it to compete on the world market with

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[9] Williams, A., 1994, "The *European* Community" (2nd edn). Oxford, Blackwell Publishing, p.8
[10] Weatherill S., Beaumont P., 1999, "EU LAW", Penguin Books, Harmondsworth, Middlesex, England,p.24
[11] Craig P., Bûrca de G., 1998, "EU LAW", Oxford University Press, New York, p.11
[12] Preston C., 1997, "Enlargement and Integration In the European Union", Routledg , p.20,

other major players such as the United States and the newly industrialised countries. The 'Lisbon strategy' includes opening up all sectors of the economy to competition, encouraging innovation and business investment, and modernising Europe's education systems to meet the needs of the information society.

At the same time, unemployment and the rising cost of pensions are both putting pressure on the member states' economies, and this makes reform all the more necessary. Voters are increasingly calling on their governments to find practical solutions to these issues.

Scarcely had the European Union grown to encompass 15 member states when another 12 began knocking at its door. In the mid-1990s, it received membership applications from the former Soviet bloc countries (Bulgaria, the Czech Republic, Hungary, Poland, Romania and Slovakia), the three Baltic states that had once been part of the Soviet Union (Estonia, Latvia and Lithuania), one of the republics of the former Yugoslavia (Slovenia) and two Mediterranean countries (Cyprus and Malta).[13]

The EU welcomed this opportunity to help stabilise the European continent and to extend the benefits of European unification to these young democracies. Accession negotiations with the candidate countries were launched in Luxembourg in December 1997 and in Helsinki in December 1999. The Union was on the way to its biggest enlargement ever. For 10 of the candidate countries, negotiations were completed on 13 December 2002 in Copenhagen and they joined the EU in May 2004. The Union now has 25 member states, and will continue growing as more countries join in the years ahead.[14]

More than half a century of integration has had an enormous impact on the history of Europe and on the mentality of Europeans. The member state governments, whatever their political colour, know that the age of absolute national sovereignty is over and that only by joining forces and pursuing "a destiny henceforward shared" (to quote the ECSC Treaty) can their ancient nations continue to make economic and social progress and maintain their influence in the world.

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[13] Weiler J, 1991, "The Transformation of Europe", Ch 3. Art 235.
[14] Weiler J, 1991, "The Transformation of Europe", Ch 3. Art 235

Integration has succeeded in overcoming age-old enmity between European countries. Attitudes of superiority and the use of force to resolve international differences have been replaced by the 'Community method' of working together. This method, which balances national interests with the common interest and respects national diversity while creating a Union identity, is as valuable today as ever. Throughout the Cold War period it enabled Europe's democratic and freedom-loving countries to stick together. The end of east-west antagonism and the political and economic reunification of the continent are a victory for the spirit of Europe – a spirit that European peoples need more than ever today.[15]

Today, European Union has 25 Member States by joining Poland, Czech Republic, Slovakia, Hungary, Lithuania, Latvia, Estonia and Slovenia. Regarding to the enlaargement policy of the Union, Turkey, Bulgaria and Romania's processes of candidacy to become the member of the Union

The European Union offers a response to the huge challenge of globalisation, a response that expresses the values Europeans believe in. The EU offers, above all, the best possible 'insurance policy' for a free and peaceful future.

1.2.2 The Main EU Treaties

Like all the other relationships, the establishment of European Union and its survival on a strong basis requires some judgments and legal concepts. EU has not been bound to a basic regulation throughout its history and has always been updated according to the decisions made at treaties and meetings and changeable needs. In order that we understand better and have an insight of the air transportation and its development which is the main topic of this work, the historical development of the EU, where this sector will be studied, must be mentioned in the first place. Since EU is based on various treaties and many organizations resulting from these treaties the title "The main EU Treaties "was thought to be necessary. Under this title is mentioned the treaties that had been signed until the European Union got its last form.

[15] Preston C., 1997, "Enlargement and Integration In the European Union", Routledg , p.22

1.2.2.1 European Coal and Steel Community (ECSC) "*Treaty of Paris*"

As mentioned above European countries have always formed unions. However, these unions have not been able to show a formal structure to the ECSC, which is one of very treaties of the world because it constitutes the basis of EU and is the first formal treaty in the history of EU. Under this title we will discuss the importance of the ECSC for Europe, its main articles and the new institutions that emerge.

The treaty of the European Coal and Steel Community (ECSC), Treaty of Paris, was signed on 18 April 1951 by France, Germany, Italy and the three Benelux countries and came into force on 25 July 1952. For the first time, a group of states agreed to work towards integration. The treaty made it possible to lay the foundations of the community by set up a High Authority, made up of nine independent appointes of the six Member State governments, to be main executive instutions with desicion making power and responsibility for implementing the aims of the Treaty; Parliamentary Assembly made up national Parliements' delegates with mainly supervisory powers; a Council of Ministers, made up of one represantative of age of national governments, with both consultative role and some desicion-making powers, and the task of harmonizing the activities of the States and the High Authority; and Court of Justice of nine judges, to interpret and apply the Treaty provisions; and finally Consultative Committee.[16]

The choice of coal and steel as the starting point of European integration was no accident. These were the war-making industries. The participants placed them under common control partly as a means of ensuring that no state possessed the capacity independently to prepare for war. The "German problem" loomed large for all involved in the process. All Europe would benefit from the economic regeneration of Germany, the heart of the Continent. The task was to promote this restructing within the securityof a wider European framework. From its very inception the movement for European integration was inspired by much more

[16] Craig P., Bûrca de G., 1998, "EU LAW", Oxford University Press, New York, p.9

than purely economic objectives. The political restructing of the Continent and the basic desire to avoid further conflict were high on the agenda.[17]

The ECSC was a significant development, as much because of what it's symbolized as because of its actual achievements in the organization of the coal and steel market. It was clear from the outset that, for its architects and proponents, this community was not merely about coal and steel but represented a first step in direction of the integration of Europe.[18]

1.2.2.2 The EEC (European Economic Community) and EUROATOM (European Atomic Energy) treaties *"Treaties of Rome"*

European countries which formed the first phases of formal union establishment with ECSC wanted to expand the union beyond coal and steel sectors to other sectors. Consequently, they started searching for new treaties and organizations. The countries which became able to behave as a group and make common decisions after ECSC was established realized more economic and social reforms. Treaties of Rome have articles that are still valid today. They constitute a basis for the new coming topics into the EU law. Under this title, "Treaties of Rome", EEC and EUROATOM will be studied.

The Six moved quickly to be built on the achievement of the ECSC and explored options for extending sectoral schemes and more ambitios integration models.This momentum led in 1955, to the convening of the Messina Conference in order to explore how extending economic integration might be given new treaty basis.[19] The treaties of the European Economic Community (EEC) and the European Atomic Energy Community (EUROATOM), or the Treaties of Rome, signed on 25 March 1957 and came into force on 1 January 1958.[20]

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[17] Weatherill S., Beaumont P., 1999, "EU LAW", Penguin Books, Harmondsworth, Middlesex, England,p.3
[18] Duchène F., Monnet J. , 1952 , "The First Statesman of Interdependence", Norton, NY City, p. 239,
[19] Preston C., 1997, "Enlargement and Integration In the European Union", Routledg , p.25,
[20] Duisburg University, Business and Economics summer Term, page 6. Available on site http://europa.eu.int/futurum/comm/index_en.htm

A committee chaired by Paul-Henri Spaak, then Belgian Prime Minister and another strong advocate of integration, published its report in 1956 which contained the basic plan for what became the European Atomic Energy Community and the European Economic Community. This time, although the Treaties may have been politically motivated, the focus was specifically economic. The peaceful development of atomic energy under the responsibility of a permanent instition was considered to be of great importance, and as a clearly defined sector it was an appropriate area of energ policy which could be placed under common authority. [21]

The aim of the European Economic Community was to establish a common market based on the four freedoms of movement of goods, persons, capital, and services and the gradual convergence of economic policies. That meant an elimination of trade barriers between member states, establishment of an external Common Customs Tariff; the introduction of a common policy for agriculture and transport; the creation of a European Social Fund, the establishment of European Investment Bank and the development of closer relations between the member States. The first aim, the customs union was completed earlier than expected (1968). First measures under the CAP were adopted in 1962. Even so, at the end of the transitional period there were still major obstaclesto freedom of movement; the single market was not complete. The aim of EURATOM was to coordinate the research programmes on the peaceful use of nuclear energy, already under way or being prepared in the Member States.[22]

1.2.2.3 Single European Act

Single European Act is a treaty which was signed for fortifying the social, economic and political structure and also for eliminating the deficiency in these issues as the other acts. The common market is mentioned as content and it is focused on the free movement, capital and goods. What is aimed with this is to benefit from the sources with a good average of profitability. And thanks to this it is aimed to increase the prosperity and make

[21] Craig P., Bûrca de G., 1998, "EU LAW", Oxford University Press, New York, p.10-11
[22] Dankert P., 1983, "The EC - Past, Present and Future", Basil Blackwell, p.22

sure the funds reach the places where they are needed without encountering any hindrances. Thus, the movements of investment in the EU will be encouraged. With the rising population the issues such as health, worker's security are touched upon. The improvement of the EU is taken into consideration and monetary sources are allocated to various headings. Under this heading, the details of this act which is shown as one of the biggest factors in the EU's adaptation common policies will be analysed.

In 1985 the British Commissioner, Lord Cockfield, had drawn up on behalf of the Commission a precise timetable for the completion of the single or internal market known as "White Paper" – setting out a long list of the various barriers which would have to be removed before a deadline of 1992. The Single European Act represented a commitment to this deadline, and despite the delay occasioned by a constitutional challenge to the Act in Ireland, the support of all of the Member States, including Thatcher's Britain, can be explained by the centrality of the "market project" to the SEA.[23]

The Single European Act, signed in Luxembourg and The Hague and came into force on 1 July 1987, was the first modification of the fundational treaties of the European Communities, that is to say, the Treaty of Paris in 1951 and the Treaties of Rome in 1957.

These are the main changes that the Single European Act introduced:

- In the institutional field, it ratifies the European Council, that is to say, the periodical meeting of Head of State and Government, as the organism where major political negotiations take place among the member States and great strategic decisions are taken. The competences of the European Parliament were lightly reinforced.

- The main compromise agreed was to adopt measures guided to the progressive establishment of a common market over a period that would conclude on 31 December1992.This would mean an area without obstacles to free movement of goods, people, services and capitals. This ambitious goal, summed up in 282 detailed measures, was broadly reached in the foreseen term. The common market became a reality.

[23] Craig P., Bûrca de G., 1998, "EU LAW", Oxford University Press, New York, p.11

- Different procedures were passed to coordinate the monetary policy of the member States, paving the way toward the objective of economic and monetary union.

- The Single Act included diverse initiatives to promote integration in the spheres of social rights (health and the workers' security), research and technology, and environment.

- To achieve the objective of a greater economic and social cohesion among the diverse countries and regions of the Community, reform and financial support to the denominated Structural Funds, European Agricultural Guidance and Guarantee Fund (EAGGF), European Regional Development Fund (ERDF), European Social Fund (ESF) was settled[24].

1.2.2.4 Maastricht Treaty

The politic and economic movements the Single European Act has started in the union can only be regarded as the beginning of the new improvements after this date. The presidents of the member countries of the community gathering in the city of Maastricht in Holland after SEA have decided to change the structure of the union and reach it to a wider structure. This meeting in which the skeleton of the EU's latest form is formed has become a meeting in which much more politic decisions were taken when compared to other acts. Besides this, it is found convenient to devote this chapter to this act which is considered as the cornerstone of the history of the EU. Below, information will be given on the scope of the act and what it brings.

The Maastricht Treaty (formally, the Treaty on European Union) was signed on 7 February 1992 in Maastricht between the members of the European Community and entered into force on 1 November 1993, under the Delors Commission. It led to the creation of the European Union and was the result of separate negotiations on monetary union and on political union.

[24] http://en.wikipedia.org/wiki/European_Union

The Treaty on European Union has two elements. The first stands alone, seperate from the existing Community legal order, whereas the second effects a substantial amendment of the Treaty of Rome and in so doing altered its name from the EEC Treaty to the EC Treaty - officially, the Treaty establishing the European Community. Prior to the Maastricht Treaty amendments, the term "European Community" was popularly used to denote the EEC, ECSC and Euratom together,but post - Maastricht the European Community is strictly the correct term only for the successor to the EEC.[25]

The treaty led to the creation of the Euro, and introduced the three-pillar structure (the Economic and Social Policy pillar, the Common Foreign and Security Policy or CFSP pillar, and the Justice and Home Affairs pillar). The CFSP pillar was built on the foundation of European Political Cooperation (EPC), but brought it under a treaty and extended it. The JHA pillar introduced cooperation in law enforcement, criminal justice, civil judicial matters, and asylum and immigration.[26]

Originally, the European Community (EC) dealt mainly with economic and trade matters. The European Commission and the European Court of Justice, both independent from the EC governments, had a lot of power within the system. The European Parliament, which was directly elected by the citizens of the EC member states, also had some power. The Governments controlled the remainder of the power, but since the mid-1980s had increasingly been doing so through majority votes. This system was called the Community method, or supranationalism, since international institutions not directly controlled by the governments wielded a lot of power, and members could have decisions they disagreed with imposed upon them through majority votes.

It was desired to add competencies in foreign policy, military and criminal matters to the European Community. However, many member states considered that these areas were too sensitive to be managed by the mechanisms of the European Community, and that the power of governments in relation to these areas had to be stronger than the powers of

[25] Weatherill S., Beaumont P., 1999, "EU LAW", Penguin Books, Harmondsworth, Middlesex, England,p.11
[26] Dankert P., 1983, "The EC - Past, Present and Future", Basil Blackwell, p.24

governments in the European Community. That is, an intergovernmental, as opposed to supranational, system would have to be used. Other member states feared that this might threaten the power of the independent supranational institutions (the European Commission, European Court of Justice and European Parliament) in relation to the economic matters then dealt with by the European Community. The three pillar structure was then developed to isolate the traditional Community responsibilities in the area of the economy (the Community Pillar) from the new competencies in the areas of foreign policy and military matters (the CFSP pillar) and criminal matters (the JHA pillar).[27]

1.2.2.5 Treaty of Amsterdam

The dynamism of 80s brought many novelties with itself. The years in which the trials of the liberalisation of the EU gained momentum are also these years. The EU saw liberalisation as the solution of its economic problems in mid 80s and with various legislations it adapted it to all its sectors. In 90s in which liberalism was literally experienced, Maastricht Treaty couldn't literally meet liberalism and due to this the union experienced some problems. Thereupon, the presidents of the member countries gathering in an intergovernmental conference signed Treaty of Amsterdam. In the treaty which will be discussed in much more detailed way below, 3 pillars forming the basic philosophy of the union were accepted. Under this heading, the general scope of the treaty will be touched on.

The next stage in the increasingly regular process of Treaty revision was already foreseen in the Maastricht Treaty itself. It was therein provided that a conference of representatives of the Governments of the member states would be convened to the Amsterdam intergovernmental conference (IGC) in 1996. [28]

[27] http://en.wikipedia.org/wiki/Maastricht_Treaty
[28] http://en.wikipedia.org/wiki/Amsterdam_Treaty

The aims of the 1996 IGC were far more modestly stated and the Amsterdam Treaty was declared to be about consolidation rather than extansion of Community powers, about improving processes and enhancing effectiveness rather than expanding competence.[29]

There are three parts to the Treaty, the first containing the substantive amendments to the TEU and to the Community Treaties,the second containing tidying-up amendments ostensibly to simplify the structure of the Treaties, and the third containing the general and final provisions on matters such as renumbering and ratification.[30]

The Treaty of Amsterdam amends the Treaty on European Union, the Treaties establishing the three European Communities and certain related acts. It does not eliminate the "three-pillar" (Community Pillar, The Foreign ad Security Policy, Police and Judicial Co-operation in Criminal Matters) structure of the European Union, although it modifies the content of each pillar, and, in addition redistibutes some content between the pillars (most of all, from the Justice and Home Affairs "third" pillar to the first, EC pillar). Accordingly, as after Maastricht, so too after Amsterdam; the four Treaties survive; the Treaty on European Union, the Euroepan Community Treaty, the European Coal and Steel Community and the European Atomic Treaty.[31]

1.2.2.6 Treaty of Nice

The theme of EU expansion was addressed again in 2000 in what became the Treaty of Nice. Signed in 2001, this treaty outlined a series of staged reforms to prepare the EU for enlargement. The treaty called for a reduction in the potential size of the European Commission, reforms to voting rules and processes in the Council of the European Union, and a reallocation of seats in the European Parliament to member states. [32]

The primary purpose of the Treaty of Nice was to reform the institutional structure to withstand the Enlargement of the European Union, a task which was supposed to have been

[29] Craig P., Bûrca de G., 1998, "EU LAW", Oxford University Press, New York, p.33
[30] Craig P., Bûrca de G., 1998, "EU LAW", Oxford University Press, New York, p.33-34
[31] Weatherill S., Beaumont P., 1999, "EU LAW", Penguin Books, Harmondsworth, Middlesex, England,p.19
[32] Preston C., 1997, "Enlargement and Integration In the European Union", Routledg , p.33,

carried out at the Amsterdam Inter-Governmental Conference (IGC), but the Treaty of Amsterdam failed to address most of the issues.

The Treaty provided for an increase after enlargement of the number of seats in the European Parliament to 732, which exceeded the cap established by the Treaty of Amsterdam.

The question of a reduction in the size of the European Commission after enlargement was resolved by a fudge, the Treaty providing that once the number of Member States reached 25, the number of Commissioners would be reduced by the Council to below 25, but without actually specifying the target of that reduction.

The Treaty provided for the creation of subsidiary courts below the European Court of Justice and the Court of First Instance to deal with special areas of law such as patents.

The Nice Treaty provides for new rules on closer co-operation, the rules introduced in the Treaty of Amsterdam being viewed as unworkable, and hence these rules have not yet been used.

In response to the failed sanctions against Austria following a coalition including Jörg Haider's party having come to power, and fears about possible future threats to the stability of the new member states to be admitted in enlargement, the Treaty of Nice for the first time adopted formal rules for the application of sanctions against a Member State.

The Treaty also contained provisions to deal with the financial consequences of the expiry of the ECSC treaty (Treaty of Paris (1951)).

It was widely accepted that the Treaty of Nice has failed to deal with the basic question of wide-ranging institutional reform, the European Union institutions being widely viewed as overly complicated, and hence the establishment of the European Convention, leading to a new IGC in 2004, was agreed at Nice.

The Commission and the European Parliament were disappointed that the Nice IGC did not adopt many of their proposals for reform of the institutional structure or introduction of new Community powers, such as the appointment of a European Public Prosecutor. The European Parliament threatened to pass a resolution against the Treaty; although it has no formal power of veto, the Italian Parliament threatened that it would not ratify without the European Parliament's support. However, in the end this did not come to pass and the European Parliament approved the Treaty.

Many argue that the pillar structure, which was maintained by the Treaty, is overly complicated, that the separate Treaties should be merged into one Treaty, and that the three (now two) separate legal personalities of the Communities should be merged, and that the European Community and the European Union should be merged with the European Union being endowed with legal personality. The German regions were also demanding a clearer separation of the powers of the Union from the Member States.

Nor did the Treaty of Nice deal with the question of the incorporation of the Charter of Fundamental Rights into the Treaty; that was also left for the 2004 IGC after the opposition of the United Kingdom.[33]

Unlike the Single European Act or the Amsterdam Treaty, the Treaty of Nice did not seek to broaden the authority of the EU. Rather, the role and powers of an enlarged EU were addressed elsewhere—in the Laeken Declaration of 2001 and by the Convention on the Future of Europe, convened in March 2002. By late 2002, all EU members had ratified the Treaty of Nice. However, Irish voters nearly forced a renegotiation of the treaty after rejecting it in a referendum in 2001; many Irish worried that EU enlargement would reduce financial benefits received by Ireland. Nevertheless, Ireland's ratification was secured in a second referendum held the following year, putting the schedule for EU enlargement back on course.[34]

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[33] http://en.wikipedia.org/wiki/Treaty_Nice
[34] http:// europa.eu.int/scadplus/treaties/nice_en.htm

1.3 AIR TRANSPORTATION POLICY DEVELOPMENT IN EUROPEAN UNION

The main goal of the foundation of the European Union is to increase the social and economic prosperity of the member countries as it was explained above. The EU has determined many policies for this goal and continuously updated these policies. There are especially many criteria the EU has determined concerning trade and social life. As it is known our country is also a candidate for being a member to the EU and has been doing many studies in order to comply with these criteria for many years.

The determination of a common policy for airline transportation was realized much more lately than many other policies. This stems from the conflict of the member countries for their interests. But going into action by taking into consideration the national interests cause many negative impacts both on the Union and its member states because the origined airline companies in the USA, thanks to the policies determined and set up on sound foundations in the USA, have gone one step further and kept their shares of the market at higher levels than the European airline companies. Here, due to such reasons the EU have attempted to determine a policy of transportation and made this policy mandatory for the member states.

Under this heading, in the scope of EU common air transportation policy, the "open skies" agreement signed with the USA and the organizations which were effective in determining these policies will be mentioned.

While there has been a Common Transport Policy since the signing of the Rome Treaty in 1957, aviation was initially excluded. Countries regulated their own domestic aviation and a bilatreal system of agreements ,evolved from the Chicago Convention of 1944, governed international air transport within the Union, as well as outside of it. Policies were essentially concerned with the regulation of scheduled fares, service provision and market entry .

The EU has also never had a single regulutory body with responsibility for international air transport like the former Civil Aeronautics Board (CAB) which regulated US interstate

aviation. Because of bilateral agreements , overlapping philosophies and approaches to economic regulation , making the creation of a unified policy is difficult . [35]

Controls over market entry fares tariffs and condition of operation that existed in 1957 gradually have grown with time These controls emerged in France Spain and Greece in where domestic aviation relatively importatnt .Moreover, They define their aviation policy according to their intersets.Regulations are managed in frame of stabiliing market ,serving the public interset and preseving public form exploitation.of monopoly .In additon to this in Aviation they have an international policy which is in frame of merchantalism .Thus ,as an objective. Goverment protects their aviation sector from foreign ones. It is a reason that low cost carriers are easily able to influence domestic aviation sector. Even they cause the domestic go bankrupt. However, Exporting aviation service can also represent an important element of ' invisible' earnings from foreign trade. Under menchantalist idea, states could not reach an unique agreement in aviation sector ,which is inefficent for the states in terms of economic and social view.[36]

However , Since the mid- 1980s, there has been move to liberilize bilateral agrrement between some memebers and in domestic aviation policy. Some, as in the Uk, were *de facto* changes did not entirely free up the market , Rather , they saw the national regulatory agency being more liberal allocation of lisences and acceptance of fare flexiblilty (UK Civil Aviation Authority ,1988).Other countries such as France,Italy ,Spain and Germany have been less inclined towards unilateral domestic liberalization. [37]

Moreover, There was complete privization of former state companies "more commen in Germany and the Netherlands) has been a gradual selling off stock,as a result of which aviation sector could work more efficient and to be convinient to compete with foreign rival. In 1984, the UK and the Netherlands concluded a new aggrement that very significant relaxed the rules concerning traffic between the two countries, Subsequently

[35] Button K., Haynes K., Stough R., 1998, "Flying İnto the Future", MPG Books, England, p.26
[36] Stevens H., "Transport Policy İn The European Union", The European Union Series,p.48
[37] Button K., Haynes K., Stough R., 1998, "Flying İnto the Future", MPG Books, England, p..28-29

the Anglo –German (1984), Anglo –Belgian (1985), Aglo-Luxembourg (1985) in these couple countries ,moving a step towards liberalization by bilateral agreements. However it did not go beyond the bilateral agreement as an Union perspective. And bilateral agreements did not give an efficient solution. Because the national approaches to international relations, particularly bilateral air agreements negotiated individually by each Member State with third countries.[38]

This fragmentation causes a number of problems:[39]

- Community airlines and their customers do not benefit from all the potential which a single Community market would offer;
- At global level, European players are too small compared with their main international competitors;
- Certain carriers, on both sides of the Atlantic, are faced with serious financial difficulties but cannot form partnerships or groupings abroad apart from simple alliances;
- The European Union's influence on aviation policy is lessened due to the lack of a common approach to trading partners or international negotiations.

After these agreements, fragment liberilisation in aviation has created an union view .

In a way of liberilaziton and integration, The air transport sector in the European Union went further with three successive stages.

- The first "package" of measures adopted in December 1987, started to relax the established rules. For example, it limited the right of governments to object to the introduction of new fares. Some flexibility was allowed to enable airlines in two countries which had signed a bilateral agreement to share seating capacity. Until then, absolute parity had been the rule.

[38] Blanco L.O., van Houtte B., 1996, "EC Competition Law In The Transportation Sector", Oxford University Press, p.166
[39] Weiler J, 1991, "The Transformation of Europe", Ch 3. Art 235

- In June 1990 a second "package" of measures opened up the market further, allowing greater flexibility over the setting of fares and capacity-sharing. Moreover, the new provisions extended the right to the fifth freedom and opened up the third and fourth freedoms to all Community carriers in general.

- The last stage of the liberalisation of air transport in the European Union was the subject of a third "package" of measures, which were adopted in July 1992 and applied as from January 1993. This package gradually introduced freedom to provide services within the European Union and led in April 1997 to the freedom to provide cabotage, i.e. the right for an airline of one Member State to operate a route within another Member State.[40]

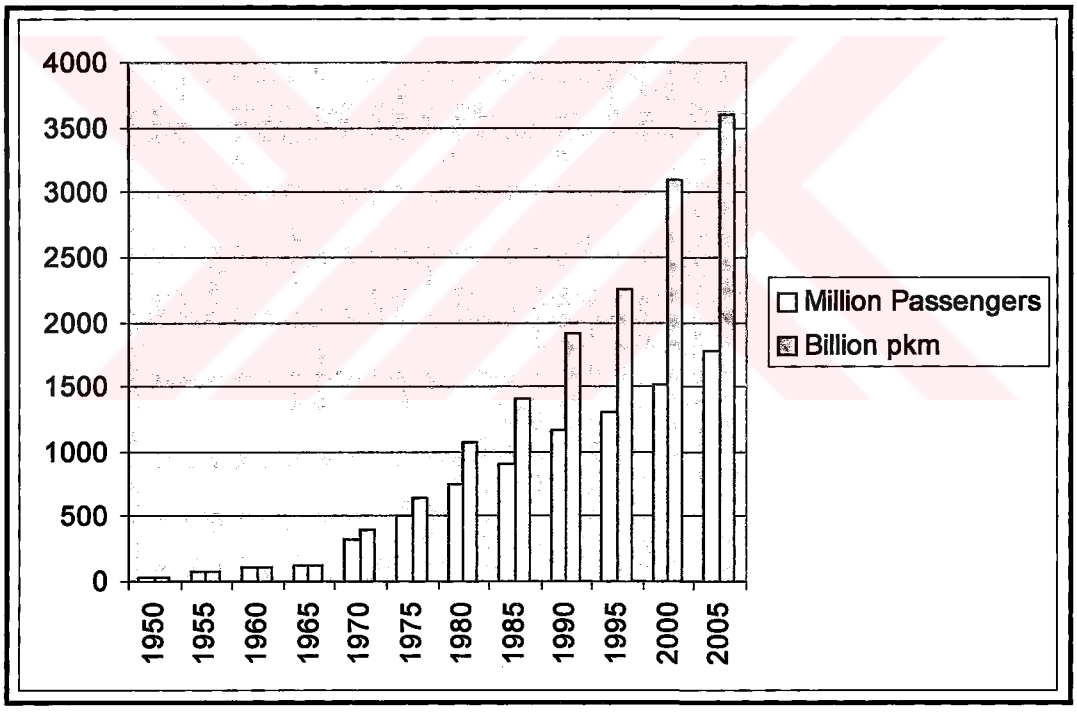


Figure 1.1 Historic Development of Air Transport[41]

Air travel has seen by far the most impressive growth in the European Union over the last twenty years because of the economic growth and increase in demand for transportation.

[40] Weatherill S., Beaumont P., 1999, "EU LAW", Penguin Books, Harmondsworth, Middlesex, England,p.43
[41] International Air Transport Association (IATA) (2000b),Pompl (1989)

In terms of passenger-kilometres, traffic increased by an average of 7.4% a year between the year 1980 and 2001, while traffic at the airports af the 15 Member States increased five-fold since 1970. The boom in air travel is exacerbating problems relating to the saturation levels reached at airports and the overloaded air traffic control system. Airlines complain about the fragmentation of European airspace, which, they say, leads to inefficiency and major delays.[42]

1.3.1 Open Sky Agreements

Open Skies Agreements the USA has realized since 1990s and approximately 34 of which are still in effect are in an opener form than the other mutual agreements. In these acts, the numbers of the airlines which will be determined by the protector states have been set free, the freedom of capacity and frequency has been supplied in all the lines, and also the freedom of identifying a price tariff unless it is turned down by the two countries altogether. However, the fact that the airlines which are to offer the transportation service will be determined by the concerning states, is going on being a factor restricting competition. However much successful are the countries signed the treaty according to their own criteria, hindering the foreign airlines, those who are harmed by these practices which increase the risk of the market's becoming a cartel are consumers.

Countries around the world have begun to realize that liberal aviation agreements have a significant impact on trade, investment, cultural exchange, and tourism between signatory parties. Recently, the growth of low-cost carriers and overcapacity in today's airline industry has reinforced the need for further liberalization of international air travel beyond that permitted by traditional bilateral agreements. For this reason, traditional bilateral aviation agreements are out of date and governments are starting to move toward agreements with country blocks rather than individual nations to create open skies between geographic regions.

[42] http://europa.eu.int/comm/transport/air/index_en.htm

The aim of open sky agreement is to do away with existing patchwork of bilateral agreements between various EU members and the United States and set up one system regulating transatlantic air transport. In June 2003, EU member states gave the European Commission a mandate to negotiate a treaty with US after the European Court of Justice deemed that parts of the existing bilateral agreements breached EU rules. The Open Skies agreements allow US airlines to fly into the EU countries concerned from anywhere in the United States and let European carriers fly to anywhere in the Untied States, on condition that they do so from their European national bases. For example, KLM Royal Dutch Airlines can fly to American airports only from Amsterdam but not from Madrid or Rome. The home bases of European airlines are thereby protected. [43]

The Ultimate goal of US aviation policy is to eliminate all the restrictions and regulations governing commercial aviation except those that are necessary to ensure safety and security. The liberal bilateral agreement has further brought price competition into the international air transport market and gradually changed scenery under traditional bilateral agreements. Most important of all, open skies agreements replace government regulation in market-based aviation regimes.[44]

The basic elements of open skies are as follows:

- Open entry on all routes;
- Unrestricted capacity and frequency on all routes
- Unrestricted route and traffic rights, that is the right to operate service between any point in the United States and any point in the European country, including no restrictions as to intermediate and beyond points, change of gauge, routing flexibility, co-terminalisation, or the right to fifth freedom traffic;

[43] Doganis R.,"The Airline Bussiness in The 21st Century,p.44-45
[44] Cheng-Jui Lu A., ,2002,"International Airline Alliances: EC Competition Law / US Antitrust Law and İnternational Air Transport",Brussels, p.42

- Double - disapproval pricing in third and fourth freedom market and price leadership in third country markets to the extent that the thirdand fourth freedom carriers in those market have it;

- Liberal charter arrangements (the least restrictive charter regulationsof the two governments would apply regardless of the origin of the flight);

- Liberal cargo regime (criteria as comprehensive as those defined for the combinations carriers;

- Conversion and remittance arrengement (carriers would be able to convert ernings and remit in hard currency promptly and without restriction);

- Open code - sharing oppurtunities;

- Self - handling provisions (right of a carrier to perform / control its airport functions in support of operations, including self - handling rights;

- Pro - competitive provisions on commercial oppurtunities, user charges, fair competition and intermodal rights;

- Exclipt commitment for non - discriminatory operation of and access for computer reservation systems.[45]

These titles were based on some freedoms which identified in Chicago Convention (1944). They were;

1st freedom: The right of an airline of one country to fly over the territory of another country without landing.

2nd freedom: The right of an airline of one country to land in another country for non-traffic reasons, such as maintenance or refueling, while en route to another country.

[45] Cheng-Jui Lu A., ,2002,"International Airline Alliances: EC Competition Law / US Antitrust Law and International Air Transport",Brussels, p.41

3rd freedom: The right of an airline of one country to carry traffic from its country registry to another country.

4th freedom: The right of an airline of one country to carry traffic from another country to its own country of registry.

5th freedom : The right of an airline of one country to carry traffic between two countries outside of its own country of registry as long as the flight originates or terminates in its own country of registry.

6th freedom: The right of an airline of one country to carry traffic between two foreşng countries via its own country of registry. This is a combination of third and fourth freedoms.

7th freedom: The right of an airline to operate stand - alone services entirely outside the territory of its home state, to carry traffic between two foreign states.

8th freedom: The right of an airline to carry traffic between two points within the territory of a foreign state (cabotage).[46]

Table 1.1 EU Member States with US Open Skies Agreements[47]

EU countries with US Open Skies Agreements	Portugal, France, Luxembourg, the Netherlands, Germany, Denmark, Sweden, Finland, Poland, Czech Republic, Slovakia, Austria, Italy, Malta
EU countries with traditional US bilateral agreements or no agreements	Spain, the United Kingdom, Ireland, Greece, Cyprus, Lithuania, Latvia, Estonia, Hungary, Slovenia

[46] Button K., Haynes K., Stough R., 1998, "Flying Into the Future", MPG Books, England, p..31
[47] Button K., Haynes K., Stough R., 1998, "Flying Into the Future", MPG Books, England, p..34

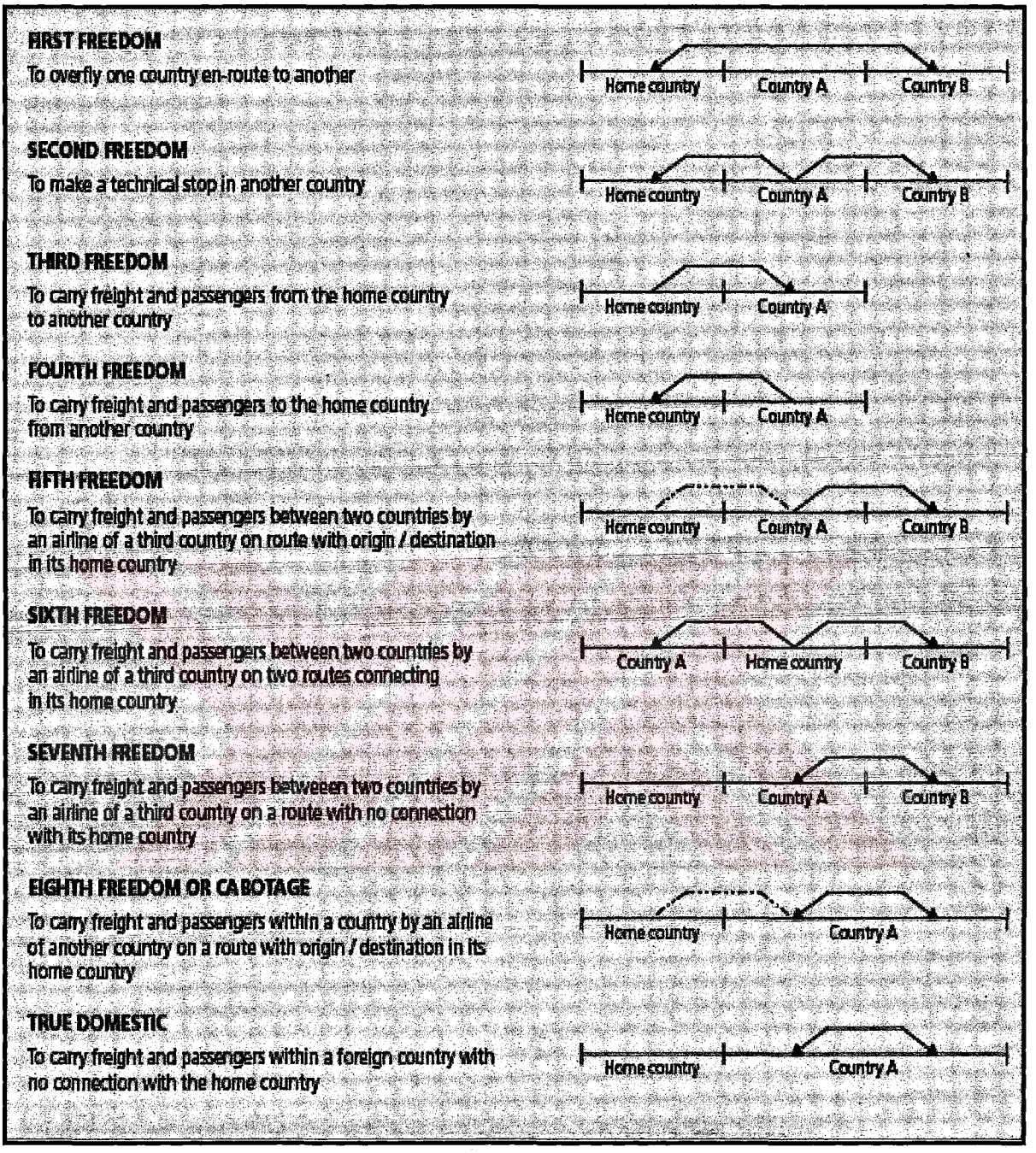


Figure 1.2 Freedoms which were Identified in Chicago Convention[48]

[48] Deutsche Bank Research, June 2004, Art. Consolidation in air transport: in sight at last?

Table 1.2 Key Differences between Traditional Bilateral Agreements and Open Skies Agreements [49]

Type of agreement	Service capacity	Service frequency	Fares	Extended traffic rights
Traditional Bilateral Agreement	Restrictions on which airlines can operate	Restrictions on what markets airlines may serve/number of flights that can be flown	Restrictions on pricing	Restrictions on operations to and from additional countries
Open Skies Agreements	No restrictions on the number of airlines that may operate, nor restrictions on what markets airlines may serve	No restrictions	No restrictions on pricing	Allowance for open rights to and from additional countries

Moreover, it is proposed that this would include the rules governing market access (routes, capacity, frequency), how airfares are set, how to ensure effective application of

[49] Gillen D., 2001, "Recent Air Transport Developments in the EU", Canada, p.22

competition rules A key element will be the removal of the special restrictions that currently apply to foreign ownership and control of airlines in the United States and EU.

The European Commission wishes to create a common airspace with neighbouring countries by 2010 and is therefore recommending that the Council comprising Member countries heads of government authorise it to start negotiations aimed at ambitious air agreements with China and Russia without further delay.

International air traffic regulations are in need of modernising. By creating a single aviation market, the European Union has opened up new opportunities for airlines and passengers. Common markets have yet to be created between the European Union and third countries.

1.3.2 Organisations

With the globalisation and liberalisation, the sector of airline transportation has made a great growth in the recent years in the world and as a result of this, competition has increased. The determination of the standards have become a necessity with the increasing competition because the standards play a determining role in the regulation of the commercial activities and in many issues such as competition, the growth of sector and common markets. And for the determination of these standards the presence of the institutions which are ultra - company are also required. And also the institutions mentioned play an active role in solving the problems the member companies experience in legal and international arenas. In the world, all sectors there are such institutions. For these institutions' forming an order, there should be another organisation determining a norm in the world business life. This role is undertaken by World Trade Organisation. WTO forms a regulating structure for all the sectors in the world. WTO is an official institution and its rules are mandatory for all the sectors. Under this heading, the regulating organisations of the sector of the World and Europe airline transportation, IATA, ICAO, EUROCONTROL and ECAC will be mentioned.

1.3.2.1 International Civil Aviation Organization

Air transportation sector is growing up, but not in the determined standards. So, this results in problems among both companies and these customers. An arranging establishment is a necessity for making rules on norms related to subjects as air transportation sector as other sectors.With the help of ICAO, it is needed to a standard in the international airline sector. It is explained under this headline that forming the ICAO, its development and some standards that it determined. The consequence of the studies initiated by the US and subsequent consultations between the Major Allies was that the US government extended an invitation to 55 States or authorities to attend, in November 1944, an International Civil Aviation Conference in Chicago.

Fifty-four States attended this Conference end of which a Convention on International Civil Aviation was signed by 32 States set up the permanent International Civil Aviation Organization (ICAO) as a means to secure international co-operation an highest possible degree of uniformity in regulations and standards, procedures and organisation regarding civil aviation matters. At the same time the International Services Transit Agreement and the International Air Transport Agreement were signed.[50]

The most important work accomplished by the Chicago Conference was in the technical field because the Conference laid the foundation for a set of rules and regulations regarding air navigation as a whole which brought safety in flying a great step forward and paved the way for the application of a common air navigation system throughout the world.

Because of the inevitable delays in the ratification of the Convention, the Conference had signed an Interim Agreement, which foresaw the creation of a Provisional International Organization of a technical and advisory nature with the purpose of collaboration in the field of international civil aviation (PICAO). This Organization was in operation from August 1945 to April 1947 when the permanent ICAO came into being. Its seat was in Montreal, Canada and in 1947 the change from PICAO to ICAO was little more than a

[50] Doganis R., "The Airline Business in the Twenty-first Century", Routledge, p.121

formality. However, it also brought about the end of ICAN because, now that ICAO was firmly established, the ICAN member States agreed to dissolve ICAN by naming ICAO specifically as its successor Organization.[51]

From the very assumption of activities of PICAO/ICAO, it was realised that the work of the Secretariat, especially in the technical field, would have to cover two major activities:

- Those which covered generally applicable rules and regulations concerning training and licensing of aeronautical personnel both in the air and on the ground, communication systems and procedures, rules for the air and air traffic control systems and practices, airworthiness requirements for aircraft engaged in international air navigation as well as their registration and identification, aeronautical meteorology and maps and charts. For obvious reasons, these aspects required uniformity on a world-wide scale if truly international air navigation was to become a possibility. Activities in these fields had therefore to be handled by a central agency, i.e. ICAO headquarters, if local deviations or separate developments were to be avoided;

- Those concerning the practical application of air navigation services and facilities by States and their co-ordinated implementation in specific areas where operating conditions and other relevant parameters were comparable.[52]

1.3.2.2 International Air Transport Association

An air transportation sector which shows a rapid growth, as it doesn't improve in harmony with the basic standards, causes some problems to emerge between the companies and also their customers. The presence of a regulating institution which is needed in all the other sectors is also necessary in the sector of transportation so that it puts into effect and applies some norms for some susceptible issues such as preventing the unfair competition. Various issues have been made mandatory to standards in the international airline sector with the

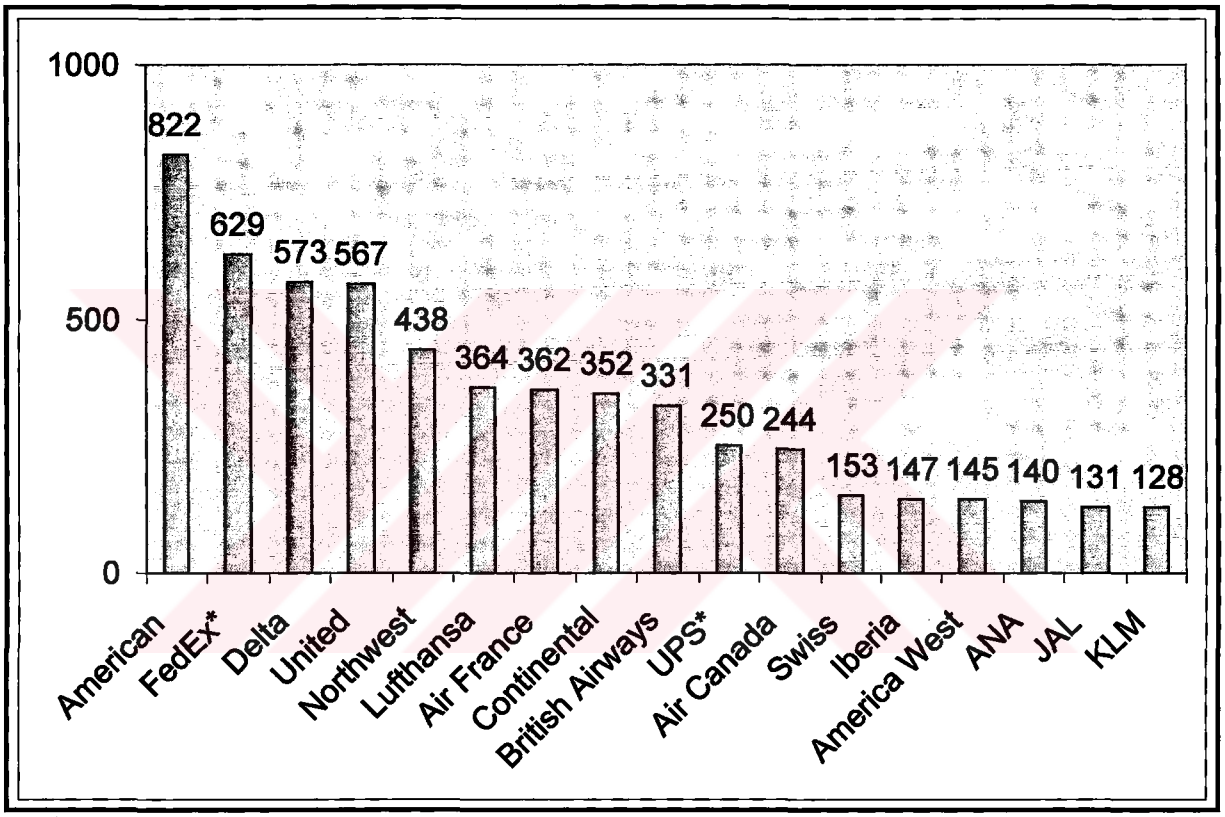
[51] http://www.icao.int/history
[52] http://www.icao.int/history

foundation of IATA. Under this heading, the foundation of IATA, its developments and some standards it has determined are explained.

In 1944 In Chicago, the International Civil Aviation Conference of government representatives established general rules for international air transport, but there was no agreement on how to handle fares or rates.It was decided that it was preferable for airlines to meet to address the problems anticipated in the expansion of civil air services after the Second World War. In 1945 the new International Air Transport Association was established in Havana, Cuba. Government representatives from the United Kingdom and the United States of America met in Bermuda to discuss whether capacity and frequency should be agreed in advance or left entirely to the air carriers concerned. The Bermuda Agreement established the principle that carriers should make agreements concerning fares and rates.The aim for the United Kingdom and the United States was then to ensure that any bilateral agreements, which they signed with other countries, would follow the Bermuda principles. It was agreed that IATA conferences would be the forum for negotiating agreements on fares and rates. In 1946 IATA Traffic Conference machinery was approved by the Civil Aeronautics Board in the United States of America and was given exemption from anti-trust laws.

Immunity from U.S. anti-trust laws allows the airlines to meet at Conferences to discuss and establish tariffs among themselves, recognising that coordination must exist for the interline system to work efficiently. Nine different regional Conferences were established. The Traffic Committee, a smaller body of senior industry executives representing the overall view of the industry, coordinated their activities. It quickly became apparent that this approach was impractical because each Conference tended to take unilateral action, reaching agreements which were frequently incompatible, and in conflict, with the decisions of others. In 1947 the first worldwide IATA Traffic Conferences were held in Rio de Janeiro, Brazil, from 30 September to 16 October.Agreement was reached on almost 400 Resolutions covering practices and procedures that would transform the IATA Member airlines' individual routes into a fully integrated international transport system.In 1948 IATA Member airlines introduced the first Multilateral Interline Passenger Traffic

Agreement, adopted by the IATA Composite Traffic Conferences at Rio de Janeiro in 1947. This agreement became one of the cornerstones of the current world interline system permitting a passenger to travel anywhere in the world with a single ticket, paid for in one currency, but involving the services of as many carriers as are necessary. IATA works both as a forum for inter - airline discussion and resolution of key issues and as a pressure group representing the interests of international airlines.[53]



* Air craft companies

Figure 1.3 Total Fleet of IATA Airlines, 2002, Number of Aircraft[54]

As a result, the global network rapidly expanded. In 1951 Quite early in the development of fares and rates agreements, a need was recognised for a self-policing machinery to safeguard the mutual cooperation that had been organised under IATA, with the approval of the interested governments.Although some governments had policing machinery in this

[53] Doganis R., "Flying Off Course", p. 39
[54] Avaliable on site : http://www.iata.org

field, the number of governments that exercised this machinery was limited. Thus, a worldwide system was required and the Enforcement (later Compliance) Office was established.The objective was to ensure observance of rules and regulations which the IATA Member airlines had agreed upon and adopted, with the full approval of governments.

By the mid-1970s, the need to reach binding agreements in Traffic Conferences was becoming increasingly burdensome for certain carriers, particularly because meetings were becoming longer. The need to work out compromises acceptable to all participants in a particular Traffic Conference area meant lengthy and often difficult negotiations. IATA set up a small group to review the problem in the context of North Atlantic tariffs and to propose solutions. But even before it had reported, two major U.S. carriers left the Association. (Both subsequently returned in the 1980s).

The report's main conclusion was that carriers were not sufficiently committed to the Traffic Conference machinery and that efforts should be made to reinvigorate the processes. In 1977 The Civil Aeronautics Board (CAB), which exercised oversight of IATA activities for the U.S. Government, issued an order for IATA to "show cause" why its cooperative activities should continue to be given anti-trust immunity.The original Show Cause Order (SCO) covered all cooperative activities, but finally examined two areas of activity: the Traffic Conferences for fares and rates and the U.S. Travel Agency program.In 1978 As a result, active membership of the Association was divided into two categories: Trade Association (obligatory), involving all collective activities which did not directly influence pricing (standardisation, distribution, technical, services and procedures); and Tariff Coordination (optional), covering fares and rates conferences.[55]

In 1982, the Americans and the European Civil Aviation Conference (ECAC) signed an agreement authorising the resumption of tariff discussions for North Atlantic routes. These used the IATA machinery but were officially called "US-ECAC" meetings. In 1993 The EU granted IATA Tariff Conferences a Block Exemption. This Block Exemption was

[55] Button K., Haynes K., Stough R., 1998, "Flying İnto the Future", MPG Books, England, p.33

extended until 30 June 2001, and IATA is working to secure a permanent extension.In 1996 Reorganisation of Tariff Coordination took place as part of the reorganisation of IATA, which aimed to provide a broader base of activities and services. IATA reduced the time involved in arriving at agreements on Tariff Coordination. This involved shorter meetings, reducing the time in finalising documents after meetings and getting closer to governments

Table 1.3 ICAO and IATA Recommendations on Airport Charges[56]

	ICAO	**IATA**
1	Should be simple	Agree
2	No discrimination against foreign airlines or between them	Agree
3	Landing fees based on wegiht	Agree
4	No differentiation for international flights or by stage distance	Agree
5	A single charge where possible	Agree
6	Landing fee to cover lighting and radio aids	Agree
7	Passenger charges acceptible but collected from airline	May be economic necessity but collect from passenger
8	Security charges only to cover relevant costs and if non discriminatory	Not justified; it is government responsibility
9	Noise surcharge only to cover noise-alleviation measures	Not justified
10	Fuel throughout charge to be considered as a concession fee	Only if covering cost of fuel facilities; not justified as concession fee
11	-	Peak-period surcharges not justified

[56] Button K., Haynes K., Stough R., 1998, "Flying İnto the Future", MPG Books, England, p.32-33

to cut the time required for approvals.The Tariff Services side of the business has expanded to feature new products and services, the purchase of publishing companies (International Airline Publications), The Air Cargo Tariff, and the Airline Passenger Tariff (which became the Passenger Air Tariff after a merger with the SITA-owned Air Tariff). More comprehensive tariff information services to Members, non-Members and governments have been established.In 1999 Despite considerable change in the aviation world, in technology and in the regulatory scene, IATA Tariff Co-ordination remained basically unchanged for more than 20 years – an activity permitted through immunities and exemptions from anti-trust and competition laws.

Without this protection, few airlines would consider entering into discussions with any other carrier against whom they compete at any level. Loss of this immunity would have an adverse effect on consumers and on the product that the airlines offer today, which is developed through IATA Tariff Conferences.IATA recognised the need to adapt to new circumstances in the aviation business, to meet consumer requirements and to respond to the regulator's pressure for change while commercialising activities.At the IATA Annual General Meeting, Member airlines agreed to a transformation plan for Tariff Services. Phase One of the Transformation involves elimination of dues for Membership of Tariff Coordination, as of 1 January 2000. In future, participating carriers pay the direct expenses of Tariff Conferences, including the costs of the Secretariat involved in those Conferences.At the same time, Tariff Services were being commercialised with a view to reducing costs for participating airlines. Significant reductions in costs have arisen from the restructuring as well as an increase to 138.[57]

1.3.2.3 EUROCONTROL

Arrangement of the air traffic is a very significant subject in aviation sector. This should be under the control of an establishment superior to companies, because of its' importance for both companies and customers. EUROCONTROL has the role of arranging air traffic in Europe. Among the missions of EUROCONTROL will be explained in details, there are to

[57] http://bbc.com

provide integration in European air space, to collect aerial navigation fees on behalf of member countries. There are 16 member countries with Turkey in. It will be examined in details that EUROCONTROLS importance in the aspect of European aviation. EUROCONTROL is the European Organisation for the Safety of Air Navigation. This civil and military Organisation which currently numbers 35 Member States, has as its primary objective the development of a seamless, pan-European Air Traffic Management (ATM) system. The achievement of this objective is a key element to the present and future challenges facing the aviation community, which are to cope with the forecast growth in air traffic, while maintaining a high level of safety, reducing costs, andrespecting the environment. EUROCONTROL develops, coordinates and plans for implementation of short-, medium- and long-term pan-European air traffic management strategies and their associated action plans in a collective effort involving national authorities, air navigation service providers, civil and military airspace users, airports, industry, professional organisations and relevant European institutions. [58]

EUROCONTROL's core activities span the entire range of gate-to-gate air navigation service operations - from strategic and tactical flow management to controller training; from regional control of airspace to development of leading-edge, safety-proofed technologies and procedures, and the collection of air navigation charges.[59]

1.3.2.4 European Civil Aviation Conference

ECAC is in a regional structure in comparison with ICAO. This establishment represents ICAO in the Europe. It has the same duty mentioned above but it also free ICAO in the Europe. Purpose of ECAC is to regulate the sector of air transportation in Europe and to keep European companies' rights against to world airline firms. It is mentioned about the background of ECAC and the standard it determined in this part.

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[58] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 105

[59] http://www.eurocontrol.int/corporate/public/standard_page/org_ourorganisation.html

Founded in 1955 as an intergovernmental organisation, ECAC's objective is to promote the continued development of a safe, efficient and sustainable European air transport system. In so doing, ECAC seeks to:

- Harmonise civil aviation policies and practices amongst its Member States
- Promote understanding on policy matters between its Member States and other parts of the world.[60]

Its long-established expertise in aviation matters, its membership across Europe, its close liaison with the International Civil Aviation Organization (ICAO) and the Council of Europe, its active co-operation with the institutions of the European Union, its special relationship with EUROCONTROL and the Joint Aviation Authorities (JAA), and its working relations with a wide circle of organisations representing all parts of the air transport industry, including consumer interests, allow ECAC to be a forum for discussion of every major civil aviation topic. ECAC has pragmatic and co-operative arrangements in place for consultation with other international organisations. For subjects on which work is being done in other organisations, ECAC's added value lies in its integrating policy on a wider geographical basis. ECAC regards itself as the representative voice of pan-European civil aviation. ECAC actively seeks and promotes arrangements, understandings and contacts with other regional organisations and States on a range of civil aviation issues of common interest. [61] ECAC issues resolutions, recommendations and policy statements which are brought into effect by its Member States. Under its auspices, international agreements have been concluded. [62]

[60] http://www.ecac-ceac.org/
[61] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 118
[62] http://www.ecac-ceac.org/

1.4 ESSENTIAL PRINCIPLES OF THE EU AIR TRANSPORT POLICY

Nowadays transportation sector is one of the most important sector of the world. Especially rapid developments in the air transportation sector increased sector's needs and government policies that regulated after these necessities. Thus, EU regulated its air transportation policy by protecting the member states' benefits. Because of rapid developments of information technologies, these policies being abrogated and Commission is still adapting the new ones instead of the defected ones. For example policies which regulated in 80's (the sector was not liberalised yet in those years) dont have validities today and the Commission brought into the force new regulatories by releated laws.

The general policy of EU is completely liberalising the economy. As known, the leaders of the liberal economy and all sectors in the world -also air transportation sector- is the US so EU copied most of the regulations from US and commented on by its laws and enjected their economies.

The historical background of the world air transportation sector was examined in the Chapter I. This chapter generally contains EU aviation sector. Under the title of 2.2, world common air transportation policy, Chicago Convention, which is the most important agreement about air transportation sector, bilateral agreements and US deregulations will be scrutinized. The liberalisation movements which revealed after the effects of the US deregulations on the EU transportation policy will be examined under the title of 2.3. This title also contains three packages -which was the base of liberalising the air transportation sector- and EU relations between third countries. After studying these topics, privatization, state aid and forign ownership subjects will be examined under the title of 2.4. Then, mergers, alliances and EU Commission control will be explained detailed within the title of 2.5. And finally infrasturcture policy in the EU will be scrutinized.

The airspace above each country is regarded as national territory and all aircrafts require permission to enter it. Many states allow aircraft to transit their airspace freely on a reciprocal basis within the frame work of the international Air services Transit Agreement, but the right to pick up and set down traffic is governed by a dense network of bilateral air services agreements, which allow only those airlines which are wholly owned and substantially controlled in one or other of the states which are party to each agreement to carry passengers and freight to and from their territories. The EU is not a natural partner in a system built around the exercise of national sovereignty, and this has limited the space for community action. The establishment in the 1980's of an internal market based on open competition across national frontiers was a new concept.

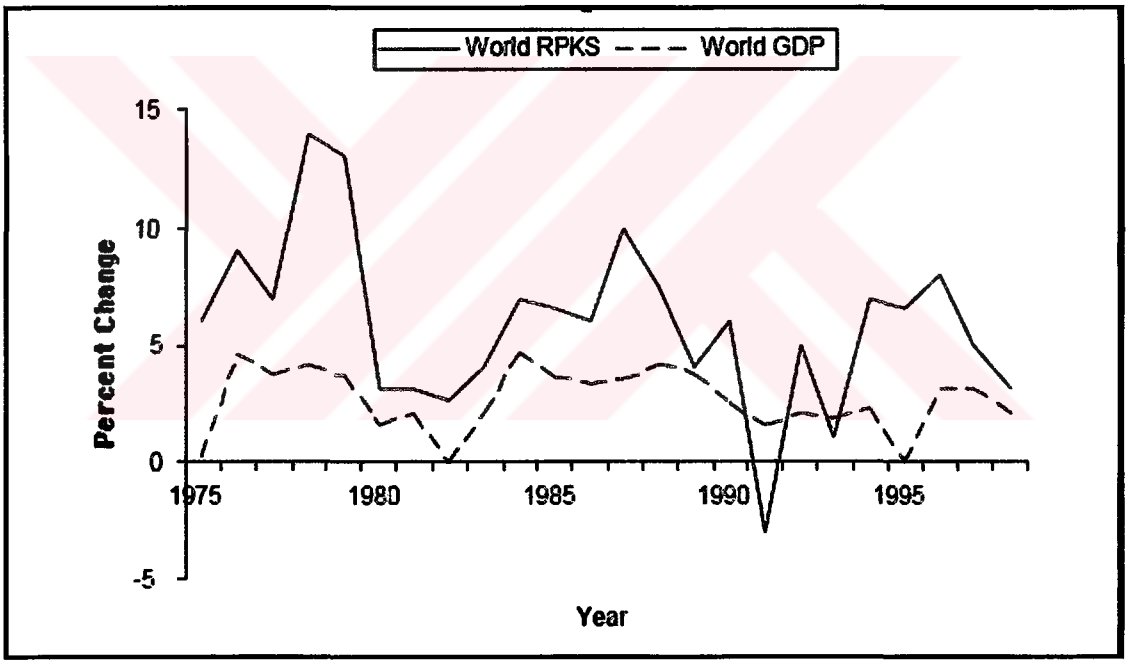

Figure 1.4 Air Traffic and Global GDP[63]

The international regulatory system has developed in the years since World War II, starting from the principles which were negotiated and agreed at the Chicago Convention on Civil

[63]Button K., , 2002, "Towards an Efficient European Air Transport System", p. 39

Aviation in 1944 by 52 nations. This chapter contains world regulations of air transport, EU air transportation policy, trends in EU air transport and competition and alliences.

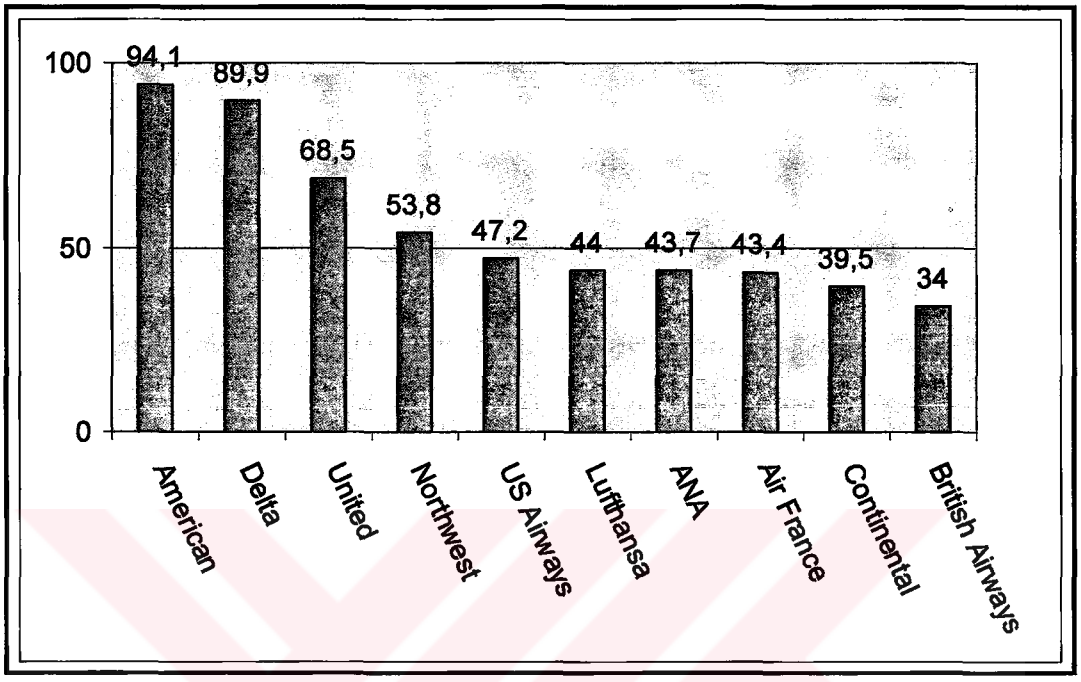

Figure 1. 5 The 10 Largest Airlines, Scheduled Passengers Carried (Million)[64]

1.4.1 WORLD REGULATION OF AIR TRANSPORT

Nowadays, the importance of globalising is known by everyone. Globalising, became a vital condition for conforming today's world. Because of the advanced information technologies, local developments effect all sectors and global markets in the world.While all sectors were experiencing developments, air transportation sector also had some reforms too. By Chicago Convention world air transportation sector saw its first regulations and bilateral air service agreements followed them. Of course in the modern information age ,which we live in, is open changings and modifications and dynamism of the air transportation sector will not be stop. As declared above, under this title Chicago Convention, Bilateral Air Service Agreements and deregulations in the US will be examined.

[64] Avaliable on site : http://www.iata.org

1.4.1.1 The Chicago Convention (1944)

Chicago Convention is a cornerstone for air transportation sector. In the Chicago Convention, a lot of countries have reached some common decisions which were regulated and standardized international air transportation and aviation sector. Most of the conditions of the agreement ,which was signed on 1944, are still valid. This title contains main principles and outcomes of the Chicago Convention.

The air transport industry has been highly regulated throughout the whole of its history, not only as concerns technical and operational standards in the interest of safety; but the economic and commercial aspects of airline operations have also been subject to a high degree of governmental control. The international regulatory system has developed in the years since World War II, starting from the principles which were negotiated and agreed at the Chicago Convention on Civil Aviation in 1944 by 52 nations. It was signed on 7 December 1944 and entered into force on 4 April 1947. [65]

The Convention had two outcomes: first, the founding of the International Civil Aviation Organisation (ICAO), now a specialized agency of the United Nations, which is involved in air transport security, operational and safety requirements and technical regulation; second the establishment of the four basic principles of international aviation regulation, namely the principle of sovereignty, which means that each state has complete and exclusive sovereignty over the air space above its territory; the principle of equal opportunities, which means the equal legal rights of all states to participate in air traffic; the principle of non-discrimination according to which international aviation regulation must be made without distinction as to nationality; the principle of freedom to designate, according to which each state has complete freedom to designate the national airlines which will operate

[65] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p.13-14

its air services.[66] Closely linked to the four principles were the five freedoms of the air, which contain the following elements: [67]

- The right of an airline company of one state to fly over the territory of another state;
- The right of an airline company of one state to land on the territory of another state for non-commercial reasons;
- The right of an airline company to carry passengers, mail and goods from its own state to another state;
- The right of an airline company of one state to embark passengers, mail and goods in another state and carry them to its own state;
- The fifth freedom, which is related to commercial transport between two states other than the airline company's own country. Under this freedom the airline of country A may pick up passengers in country B and off-load them in country C. Closely connected with the fifth freedom is cabotage, which is the right of an airline company of one country to embark passengers, mail and goods in another country and carry them to another point in the same country for a fee or a leasing contract. Cabotage introduces competition between domestic and international carriers and is as important as the fifth freedom in the whole issue of air transport liberalization. In the Chicago Convention, cabotage was referred to in the declaration according to which each contracting state may reserve to its own aircraft the exclusive right to carry traffic between two points in its own territory.

1.4.1.2 Bilateral Air Service Agreements

Following signing Chicago Conveniton, some countries have reached bilateral agreements. Because Chicago Convention was containing general items and it was not enough to arrange bilateral relationships between countries. Absence of local conditions forced

[66] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.25
[67] Button K., , 2002, "Towards an Efficient European Air Transport System", p. 69

countries to sign bilateral agreements on air transportation sector. The contents and consepts of these bilateral agreements and some countries which signed this type of agreements in the history will be explained and sampled under this title.

In 1946, the very first bilateral agreement was signed between the US and the UK and is known as Bermuda I. The goal of the bilateral air transport agreement ought to reach certain understandings between governments in order to foster and encourage the widest possible distribution of benefits of air travel, simulate international air travel and to ensure the common welfare of both countries. The bilateral agreement can be seen as a compromise between different attitudes towards the operation of international air transportation service. [68]

The Bermuda Agreement became the standard model for bilateral air service agreements between other countries. The tendency of many countries since the Bermuda agreement of 1946 was to opt for bilateral agreements which were highly restrictive, ensuring that a percentage of total traffic on a route was guaranteed for the national carrier of the countries Concerned and the number of flights on particular routes limited, allowing only the national carrier to operate.[69]

1.4.1.3 Deregulation in the United States 1978

US is the most effective factor of the air transportation sector in the world. One of the proofs of this assertion is, the most profitable and big companies of the world like US Air and Delta Airline are US origined. Because of this, any regulations or any bilateral agreements was signed by US and other countries will be an effective element for world air transportation sector. Especially, with the open skies agreements ,which was signed by US and EU, removed barriers among these two unions and also let the sector's rapid

[68] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 14
[69] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.26

developments, standardization in the sector and common price decisions too. Because of these important subjects the chapter have to contains this title.

Deregulation of the airline industry first appeared in the United States at the end of the 1970s. The US Airline Deregulation Act of 1978, which came into operation on 1 January 1979, and which involved the deregulation of domestic air services in the US, was the first major step in this direction. The Act gradually abolished the Civil Aeronautics Board, set up in 1938, over a period of five years. Under the Act, control over domestic route allocation and fares was relinquished. Furthermore, in the international field the adoption of the open skies policy by the US Department of Transportation, which took over from the Civil Aeronautics Board on 1 January 1985, meant that more liberal bilateral agreements on the international aviation market could now be negotiated between the US and other countries. This policy was concerned principally with the establishment of links between US airline companies and European partners. The policy involved among other issues that airlines were to have free access to all routes without restrictions on capacity and frequency. Airline companies were allowed to establish hubs, i.e. bases which could be used by each company to group and distribute its traffic to other destinations in its network.[70]

Companies in the US and in Europe were enabled to enter into agreements on code-sharing, i.e. joint management of routes, for the purposes of reorganization and joint management of their networks in partnership. Commercial agreements concerning air transport operation other than code-sharing were considered not to infringe US antitrust laws. Finally, airline companies were enabled to operate their own ground services abroad and allowed nondiscriminatory access and use of computer reservation systems. Up until 1994, only the Netherlands had accepted the United States' open skies policy.

[70] Button K., , Haynes K., Stough R., 1998, "Flying Off Course", MPG Books, Britain, p.26

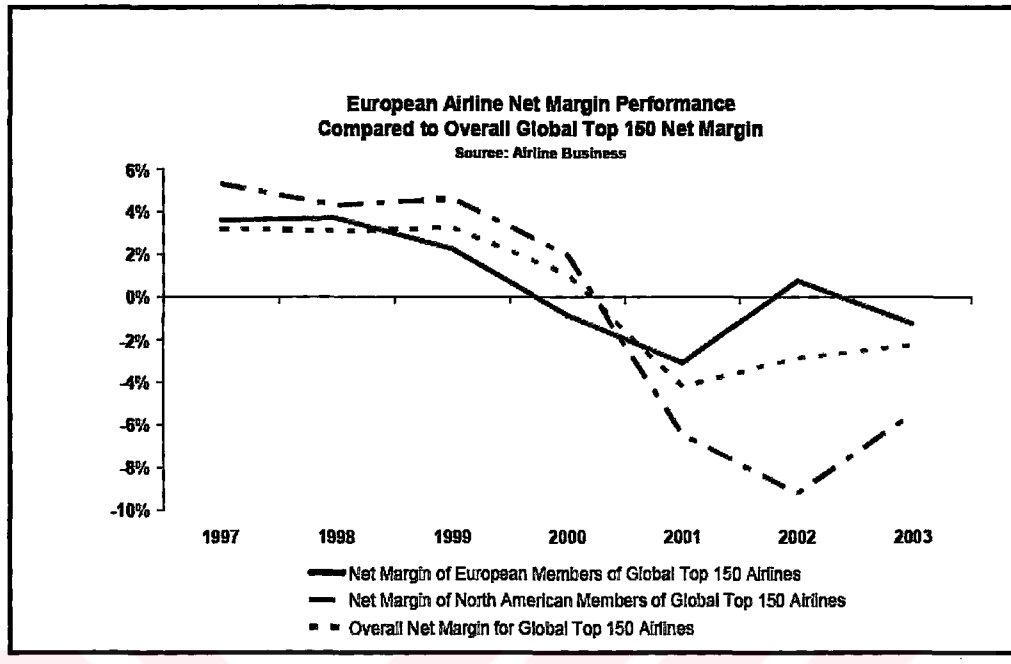

Figure 1.6 EU-US Comparison of Profit Margins[71]

The open skies agreement between the USA and the Netherlands enabled KLM and NorthWest to establish a code-sharing system which doubled the number of connecting flights they could offer and won for the two companies a good position in the computer reservation network. Code-sharing agreements outside the open skies policy exist, but they are limited to sharing routes and do not involve streamlining and joint management of the partners' networks. Examples of such agreements are the Lufthansa-United Airlines agreement and the British Airways-USAir agreement.

Differences between the various bilateral agreements concluded by European countries with the US reflect among other things the extent to which such structural differences are considered relevant for the bilateral regulatory framework: in some cases, restrictions have been introduced with a view to prevent or limit the perceived negative effect of structural differences; in other cases, the unlikelihood of such an effect in terms of large scale head-on competition from US airlines has made some European countries prefer an 'open skies'

[71] Van Hesselt L., 2005, "What are the objectives of the regulators; is their focus right?"(pps), s.9

agreement over and above an agreement which primarily would have the effect of curtailing the market access opportunities of their own airlines in the US.[72] In 1994, the US government approached seven member states in the EC (Germany, Denmark,Austria, Finland, Luxembourg, Sweden and Belgium) with draft bilateral open skies agreements in the field of air transport.

Also in 1995, the United Kingdom concluded a new agreement with the US. The Commission, accordingly, started infringement proceedings against the eight member states in 1995/1996. On 26 April 1995, the Commission approved a proposal mandating it to open negotiations with the US in this field and it was to be submitted to the Council of Transport Ministers in June of that year. According to the proposal, the Commission was to negotiate full market access for Community air carriers for traffic in the US and the Community aviation markets, to establish a set of mutually agreed criteria to avoid market disruption and unfair competition, to ensure reciprocal rights in the field of acquisition of carriers and an effective mechanism for resolving disputes. However, the Council of Ministers was not able to reach agreement on this proposal until July 1996 when the Commission was given a mandate to negotiate an EU-wide agreement. This mandate did not cover all issues and several member states continued to negotiate open skies agreements with the US which have further weakened the EU's negotiating position. In 1996, the British government again planned to sign an open skies agreement with the US government to pave the way for a code-sharing alliance between British Airways and American Airlines (AA). The present Commissioner responsible for competition, Karel Van Miert, had already warned the British government earlier in 1996, as Neil Kinnock had warned the seven member states in 1995, not to approve the agreement between BA and AA and not to enter into a bilateral agreement with the US. On 3 July 1996, the Commission started proceedings under Article 89 of the EC Treaty in order to examine whether the alliance was compatible with EC competition rules. In December 1997, the Commission decided to initiate the second phase of the breach of Treaty proceedings against eight member states: Germany, Austria, Belgium, Denmark, Finland, Luxembourg, United Kingdom and Sweden. The proceedings

[72] Association of European Airlines, 1995, "EU External Aviation Relations AEA Policy Statement", Brussels, p.17

followed the letters of formal notice in 1995, and are called the reasoned opinion stage under Article 169. [73]

1.4.2 FROM REGULATION TO LIBERALIZATION IN THE EC

As mentioned above, after US deregulations, most of EU origined air transportation companies stayed behind on the competition because of non liberalised economy of the Europe. This situation generally effected the prices and bad impacts to the economic equilibrium. The solution was whole liberalisation of the economy and to achieve it there was some necessary processes to do. Under this main title, the 3 packages which was declared for liberalising the economy, relationships between EC and the third countries, agreements with these countries and the importance of these agreements will be examined.

In 1944 Chicago Convention was signed on but it was not able to catch up the rapid develeopments of the aviation sector. After the Convention European governments set uo their own regulatory systems for their fledgling air transport industries. From now European airlines had grown up very much. So in 1955 The European Civil Aviation conference (ECAC) was established as a regional organization of the International Civil Aviation Organization (ICAO).

Since 1976 the rapid moves towards deregulation in the USA prompted an international about the regulatory system, leading (ICAO) to summon a special Air Transport conference in April 1977. The settled regime which had governed air services for so long was being questioned. The program which the council endorsed a year later did include whitin it the potential application to air transport of the general rules of the Treaty, which the court had shown to be at risk in the absence of any council decisions. Subsequently, Directive 83/416 included liberalizing the conditions under which the members states would approve cross-border services with small aircraft between the community's regional airports, the external pressures which had been building up since 1976 prepared the ground for much more rapid

[73] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.56

progress to be made towards the establishment of a liberal internal market from 1984. The initial response to US deregulation occurred not within the community but within the European Civil Aviation Conference, which in 1982 produced two important documents.

The first was on competition in air services (COMPAS) which not only described the scope for competition, severly limited as it then was by agreement between airlines and between governments, but also explored the wide range of options which could be used to increase competition by designating more airlines to compete with one another and setting them free to decide for themselves what frequency, capacity and tariffs they would offer in the market. The second important development was the negotiation of a memorandum of understanding with the United States which liberalized the agreements for agreeing tariffs on the North Atlantic (the US/ECAC MOU of May 1982). It was agreed that airlines should no longer be obliged by governments to consult about their tariffs within IATA and the scope for governments to refuse tariffs not so agreed was reduced by defining discount zones within which approval would be automatic, provided that tha tariffs also included certain restrictive conditions to justify the discount against the standard economy fare.[74]

1.4.2.1 Three Liberalisation Packages

As described ex parts, because of rapid movements of the deregulations that begun in the US, borught some negative influences with its expected effects to the air transportation sector. Thus, EU took some lessons from US deregulations and proceeded its liberalising process at three levels. The reasons were constituting completely liberalised sector and providing consumers to benefit from the liberal economy. This three packages which were turning points for liberalising EU air transportation sector, will be described below.

Under the EC Treaty, the principle of free establishment of persons, services and capital is essential to the completion of the establishment of a Common Market. Under some principles of Rome Treaty, the EU started its process of the liberalisation of its internal market in 1987.

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[74] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.56

US airline industry was moving rapidly and in addition the European airline industry could not be isolated from the developments in the United States. US deregulation increased some diplomatic pressure for a more liberal intercontinental airline system. All of these considerations iteracted with the growing request for reform within the EC to start the EU to start the liberalisation of air transport.

The best lesson that the EU learned from the US deregulation is that the almost total withdrawal of any of regulation is not a good approach. Thus, the EU followed a different approach in liberalasing its air transport market. It is also important to note that the liberalisation in the EU is mainly for the purpose of integrating its internal air transport market.[75] And finally three liberalisation packages declared.

In 1989 council adopted two package. The first package represented a significant First step towards a more liberal internal market in air transport. It has only very limited effects on air fare, capacity sharing and market access rules, although it brought the principle of Community control of civil aviation matters within the boundaries of the EU.[76]

The second package further liberalises capacity sharing, air fare approval, route and slot access. All the changes toward a more competitive intra-European market relate to tariff approval. However, compared with the Commission's original radical proposal, this package is quite mild. The council of the Minister did not support unqualified double and disapproval, cabotage air licensing. Competition laws are extended only to international air transport within the Community.[77]

The second package, which came into operation on 1 November 1990, included provisions for further relaxation of the requirement for fare approvals by national governments, allowing the designation of several carriers on certain routes and providing access to third,

[75] Stevens H., "Transport Policy In The European Union", p.47
[76] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 29
[77] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 29-30

fourth and fifth freedom traffic rights on scheduled flights within the Community. In addition, quota sharing of passengers was progressively abolished.[78]

In 1992, the Council of Ministers of the EU adopted a package of measures intended to liberalize the internal market for air transportation in the EU, including measures allowing EU air carriers substantial freedom to set air fares, allowing EU air carriers greatly enhanced access to routes within the EU and introducing a licensing procedure for EU air carriers.

In particular, the Commission referred to the regulatory context, which had changed substantially, since the introduction of the third air transport liberalisation package with effect from 1993. As the Commission noted, with the removal of regulatory restrictions on the commercial conduct of air carriers, competition issues became increasingly pressing. The Commission therefore considered that it should be equipped with the appropriate enforcement tools to ensure that the beneficial effects of the liberalization process were not to be partially offset by restrictive or abusive behaviour on the part of European or non-European commercial operators, to the detriment of consumers. Furthermore, the Commission emphasised the weakness of the external aspect of the aviation market with its system of bilateral agreements between Community Member States and third countries and the need to create a more structured legal framework.[79]

The completion of the internal market was due to be completed at the same time as the third phase of the Commission's programme to liberalize air transport in the EC came into operation, with the result that airlines could no longer rely on government protection and had to adapt to the more competitive environment in which the rules of the market determine success or failure.

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[78] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.32

[79] Commission Of The European Communities Council Regulation, Council Regulation, repealing Regulation (EEC) No 3975/87 and amending Regulation (EEC) No 3976/87 and Regulation (EC) No 1/2003, in connection with air transport between the Community and third countries, p.4

The third package gave EU airlines more opportunity to carry traffic both between two other EU countries (fifth freedom) and within another EU country (consecutive cabotage), both operated as an extension of a cross-border service from their home country. Considerable use was made of these freedoms initially, especially by airlines based in peripheral EU countries, but many of these services were subsequently discontinued due to poor economics. An alternative way of serving routes out of other EU countries is available through the right to establish an airline based in another country. Airlines such as British Airways (TAT in France and Deutsche BA), Lufthansa (Lauda Air in Austria and others) and KLM (Air UK) have done so, but only on a minority basis, the maximum stake being 49.9%.[80]

The provisions of the third package meant first of all that free tariff-fixing was allowed from 1 January 1993 subject to certain safeguards to prevent excessively high or low fares.64 The development of the market since the beginning of 1993 has been characterized by the airlines marketing a great variety of fares at special prices or fares with a special time-limited discount. Special prices and discounts are marketed as alternatives to the tariff prices but do not substitute for them. Generally, airlines now operate three categories of fares: 1) full fare prices on economy, business and first class; 2) special fares such as APEX (advance purchase excursion ticket) and PEX (purchase excursion ticket); 3) discount prices with time limits. The special fares and discount prices (2 and 3) are usually made subject to a number of restrictions, as they have to be booked in advance, the booking can neither be altered nor cancelled, and the number of seats available is limited. However, two policies can be distinguished on the European market: one is employed by the big, established airlines. They compete for market shares by offering a great variety of discounted fares on selected flights during limited seasons and on a limited number of seats. Smaller airlines with fewer routes and less flight frequency make use of the policy of offering discounted fares on all their flights. Virgin Express and Ryanair make use of this

[80] The Single Market Review series Subseries II - Impact on Services AIR TRANSPORT Summary May 1996

practice. The net result has been that the new access to price competition has led to new price discounts but not to a reduction of tariff prices.[81]

Within this package, Council Regulation 2407/92 enables an air carrier of one EC Member State that meets certain financial and safety standarts to establish airlines in other European Community countries. In order for air carriers (undertaking) to obtain an operating license in the EU and to be considered a "Community air carrier" the following conditions must be fulfilled:

- The air carrier's principal place of bussiness and its registered office (if any) are located in one of the EU Member States,
- The main occupation of this undertaking is air transport in isolation or combined with any other commercial operation of aircraft or repair and maintenance of aircraft,
- The equity capital of the air carrier is majority owned and effectively controlled by EU Member States and / or EU nationals,
- The carrier must be financially fit,
- The national authority may require proof of the personal fitness of its managers,
- The carrier must have at its disposal, through ownership or any form of lease, at least one aircraft,
- The carrier must have passenger, baggage, cargo, mail and third part liability insurance,
- The carrier must have a valid air operator's certificate.[82]

[81] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.32-33

[82] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 31

Table 1. 4 An Overview About the Contents of the Three Liberalisation Packages[83]

	First package 04. 12. 87	Second package 24. 07. 90	Third package 01.01.93
EU Regulations and Directives	Council Regulations (EEC) N° 3975/87: application of competition rules (EEC) N° 3976/87: group exemptions (fares) 87/601/EEC: multiple designations, relaxed freedom rights 87/602/EEC: air fares approval	Council Regulations (EEC) No 2342/90: loosening of air fares approval rules (EEC) No 2343/90: loosening of access & capacity restrictions	Council Regulations (EEC) No 2407/92: licensing of air carriers, ownership & control (EEC) No 2408/92: access for EU carriers to EU routes (EEC) No 2409/92: fares and rates for air services (EEC) No 2411/92: exemptions from competition rules
Competition Rules	Application of competition rules in EC Treaty Article 81 (85) paragraph 1 with group exemptions in case introduction		In principle, full competition. Exemptions according to EC Treaty Article 81 (85) paragraph 3 still possible when joint agreements are economically or technically advantageous
Market access	Multiple designation possible on busy bilateral routes with > 250.000 pass. in '85 > 200.000 pass. in '86 > 150.000 pass. in '87 ➔ designated carriers of a Member State can extend air routes to regional airports of another Member State regardless of *distance and A/C size*	Multiple designation between city pairs possible • from 01. 01. 1991 on routes with > 900.000 pass in '89 or > 450 flights p.w. • from 01. 01. 1992 on routes with > 700.000 pass in '91 or > 350 flights p.w.	Single European Aviation Area replaces bilateral designations. In principle, any Community carrier can operate services on any intra-Community route. Free access inhibited through lack of agreement on slot distribution. Capacity restrictions and ➔"grandfather rights" continue to prevent access to hub airports *for new entrants*
Traffic rights	➔ Fifth freedom between other Member States granted when • at least one regional airport is included • flight starts or ends in own carrier's home country • route make up less than 30% of carrier's annual capacity allows carriers to connect routes between points served when no traffic right is exercised yet	➔ Fifth freedom between other Member States granted when • at least one regional airport is included • flight starts or ends in own carrier's home country route make up less than 50% of carrier's annual capacity allows carriers to connect routes between points served even when traffic rights are already exercised	Until April 1997 ➔ cabotage rights (eighth freedom rights) granted under the condition that • the flight starts or ends in carriers' own country • less than 50% of capacity allocated to service extended through cabotage flights is used for intra cabotage From April 1997, full cabotage granted
Fare approval	➔double approval of full fares Rate discounts possible within flexibility zones: • 80% - 65% of reference rate for discount fares • 65% - 45% of reference rate for super discount fares	➔double approval of full fares Flexibility zones for rate discounts extended: • 95% - 70% of reference rate for economy fares • 94% - 60% of reference rate for discount fares • 70% - 30% of reference rate for super discount fares	Free pricing on all fares. ➔double disapproval rule applied. Member states can jointly intervene against excessive prices or price dumping
Capacity	capacity can be divided at ratio 55/54 initially, later 50/50	capacity can be raised by 7,5 % annually up to 60% no capacity limitations on routes between regional airports regardless of A/C size	In principle no capacity restrictions. Restrictions possible under conditions of • serious congestion • environmental problems • serious financial damage caused to carrier(s)

[83] Gillen D., 2001, "Recent Air Transport Developments in the EU", Canada, p.10

1.4.2.2 Relationships between the EC and Third Countries

In the 21st century leader companies of the world trade are generally Europe or USA origined. The reason of this situation is their succesfully liberalised whole economies. Liberal economies present importance both companies and prosperity level of countries. USA and Europe are being model for a lot of countries for liberalising their economies. EU has had an affair with these countries and designate own policies towards them. Agreements and relationships between US and EU was explained ex parts. This title contains relationships between EC and third countries and examines the agreements in detail.

After the third package the Commission considers that the internal market for air transport is still very fragile, to the extent that it is incomplete because of the bilateral agreements between member states in the Community and third countries and a number of other factors. The agreements with third countries often contain provisions which do not conform to the regulation of the internal market, such as provisions for the designation of a national airline to serve on routes covered by the agreement. This entails that the pressure of competition between airlines on the internal market is slackened. Other, more practical obstacles to the third package having its full effect exist. One of these concerns the infrastructure which will be insufficient if the expected increase in passenger flight traffic takes place within the next eight years. More than ten European airports will not have sufficient capacity in respect of landing and take-off by the year 2005. Another obstacle is the limited access to ground handling services which many national airports and national airport authorities have imposed, to the effect that either the national airline, a subsidiary or an independent company has a monopoly on these services. The lack of harmonization in the social and tax legislation of the member states also causes problems. All of which has led to the Commission's proposals to take action to;

- Extend the two block exemptions concerning slot allocation and computer reservation systems;

- Update the Code of Conduct for the computer reservation systems introduced in 1989;

- Gradually liberalize access to ground handling services.[84]

In January 1993, there were 488 routes between airports within the EC. In 1996, the number had increased to 518. In 1993, of the 488 routes 296 (61 per cent) were flown by airlines with a monopoly, 182 routes (37 per cent) were duopolized, and 10 routes (2 per cent) were flown by more than two airlines. In 1996, of the 518 routes 329 (64 per cent) routes were flown by airlines with a monopoly, 158 routes (30 per cent) were duopolized, and 31 routes (6 per cent) were flown by more than two airlines. Thus the number of duopolized routes has decreased, whereas the number of routes served by either one airline with a monopoly or by several airlines has increased, respectively. However, the frequency of flights on the routes served by more than two airlines has increased from 12 per cent in 1992 to 16 per cent at the beginning of 1996, including flights on the busy routes between Heathrow-Roissy, Dublin-Heathrow, Stockholm-Copenhagen and Brussels-Rome. In 1996, 30 routes were served under the fifth freedom of the air compared with 14 in 1993. There were no cabotage routes in 1993, but the figure was 30 in 1996.

In order to strengthen trade ties with neighbouring European countries and further expand the Community's internal market, the European Community, its Member States and European Free Trade Association (EFTA) countries signed the Agreement to actively build an "European Economic Area" (EEA) in May 1992. Through the EEA Agreement, a large body of Community law was received into the laws of participating EFTA countries. To the majority of these EFTA countries, becoming a contracting party of EEA was one step closer to becoming a member of the Community.[85] After EEA, Swiss, Norway and Sweden Governments support the European integration policy. Because of this, Commission built

[84] Council Regulation No. EEC/2299/89 (O.J. No. L 220)
[85] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 33

Common Aviation Area (CAA) among the European Community, Swiss Confederation and EFTA countries. [86]

Regarding the EEA and CAA, the Commision continues to put effort into expanding the framework of a free trade area to the Central European countries. The European Community and its Member States have concluded European Agreements with Hungary, Poland, the Czech and Slovak Republics, Romania and Bulgaria. [87]

The Commission organised a meeting with experts from Member States and Central and Eastern European Countries. The consensus reached by the meeting was to establish a European Common Aviation Area (ECAA) and create a larger European air transport market. So Slovenia, Estonia, Latvia, Lithuania and Cyprus opened negotiations too.[88]

Further the ECAA, the Commission, with support from the Association of European Airlines, proposed concluding an agreement with the US in order to establish a Transatlantic Common Aviation Area (TCAA) with the US.[89]

TCAA would include among other things a relaxation of limits on foreign ownership and control of airlines; the application of competition rules; the setting up of a dispute settlement mechanism and criteria for economic and technical fitness of aircraft and their operators.

The Commission has suggested that such bilateral agreements with third countries should be renegotiated and their anticompetitive effects controlled. Accordingly, the Council has authorized that Community negotiations be carried out with the United States and with some of the associated countries in Central Europe. Two block exemptions concerning slot allocation and computer reservation systems update the Code of Conduct for the computer

[86] Association of European Airlines, 1995, "EU External Relations : AEA Policy Statements", Brussels
[87] The EU Committee of the American Chamber of Commerce In Belgium, October 2002
[88] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 33
[89] Doganis R., 2002, "Flying Off Course (3rd edn)", New York,p.73

Table 1.5 Main Features of the TCAA[90]

Rules on Freedom to Provide Services	1. All airlines of the parties to the TCAA will have unrestricted commercial oppurtunities to provide trade in services within the TCAA 2. No distinction in different categories of traffic rights. 3. Traditional bilateral regulatory regime remains on air transport services between the TCAA to/from third countries until the third country joins the TCAA 4. The traditional limitation of traffic rights between the US and EU countries with non "open skies" agreements remains and all parties reserve cabotage rights.
Rules on Airline Ownership and the Right of stablishment	1. Cross-border mergers, acquisitions and new entry within the TCAA should be permitted. 2. Airlines that have been allowed to enter and provide services in the TCAA market must be maority owned / controlled by nationals of the parties.
Competition Policy	1. Due to the conflicts over the applications of US antitrust law and EC competition law to transatlantic airline alliances, it is also necessary to create common policies should be harmonised and the harmonised policies should be in the public interest and be able to promote economic progress within the TCAA, to take care of consumers' interests and help to build competitive airline networks. 2. The common rules and policies should focus on the following key elements : (a) basic criteria for granting exemption and relevant criteria for the concept of "public interest"; (b) definition of the "relevant market"; (c) distinction between "market power" and "market share"; (d) the notion of "predatory" behaviour; (e) sharing the essential facilities between air carriers; (f) the treatment of inter-airline co-operation arrangements, (g) what kind of remedies and sanction can be applied. 3. Air carriers' bussiness decisions should be based on market force.
Leasing of Aircraft	1. Safety should be the only concern in terms of operating leased aircraft within the TCAA by TCAA-based air carriers. 2. Permit TCAA-based air carriers to freely lease aircraft from/to other TCAA-based or third country air carriers based on safety criteria.

[90] Gillen D., 2001, "Recent Air Transport Developments in the EU", Canada, p.19

reservation systems introduced in 1989 gradually liberalize access to ground handling services.[91]

1.4.3 REGULATORY ENVIRONMENT

Governments have a regulator part in economic activities. The aim of this situation is protecting the rights on the bilateral relations and increasing comfort of the public. Furthermore, they want to protect their own companies towards foreign owned companies inner their countrie's borders. Because increasing national income just possible with increasing own countries' profits and market shares. So, for realizing this goal they have to take some regulatory measures.

Under this title, at the scope of EU's regulatory measures, privatization, state aid and foreign ownership subjects will be scrutinized.

1.4.3.1 Privatization

If the reason of monopoly rights, which was given to the companies from governments, dont for a service which protects general economic utilities, generally causes high prices, low service qualities and lower reforms and investments. Because of this, for increasing quality of service and decreasing prices, monopoly endustries must be opened to the competition. Furthermore, revenues of privatization are a good addition to the national economy.

State owned companies mostly to be a burden to the governments because of their huge idle structures. To transfer these very unstable and unprofitable state owned companies to the private sector provides well results both for entrepreneurs and governments.Today most profitable companies in the Europe such as KLM, British Airways was privatizated from Commission in the mid-1980s.

This title describes privatization policy of EU and gives some samples from the history.

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[91] Commission's Report of 22 October 1996 COM (96) 514 final, p. 1a and 9.

The philosophy of reduced governmental involvement which led to liberalization of the airline industry in Europe also had another aspect, represented by the movement away from state ownership of airlines towards private ownership. Many European airline companies in the EC have thus been following a policy of total or partial privatization. The first airlines to be privatized were British Airways in the UK and KLM in the Netherlands.

KLM was the first European airline to be privatised in a programme which started in 1986. At the time, KLM was a limited company quoted on the Dutch stock exchange and was in an ideal situation for privatization. The equity participation of the company was shared with a majority private sector capital and a smaller but significant participation by the Dutch government. Being quoted on the stock exchange gave an accurate indication of the stock market value of the company. KLM was privatized in three simultaneous operations:

- The company bought a large part of the shares (3 million) owned by the government, so that the government now owns only 39 per cent of KLM's registered capital;
- these shares were immediately sold through a banking syndicate which was appointed to put them on the market together with
- 12 million new shares issued to increase the registered capital of the company.[92]

British Airways is the largest airline company in Europe. Since BA started co-operation with USAir in 1993 by securing a 24.6 per cent stake in USAir, the sixth largest carrier in the US, BA became one of the largest airlines in the world. The privatization of British Airways in February 1987 is the largest privatization programme ever of an airline company. All the government shares in the company, which amounted to £900 million, were transferred to the private sector. It took seven years for the process to be completed. During this period, it was necessary to change the whole economic and financial situation of British Airways, to promote a new corporate image and to implement a programme of

[92] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 31

modernization and rationalization. These measures contributed towards improving British Airways' financial situation and its debt was reduced accordingly. The transfer of shares to the private sector was organized by a public offer of shares on the British financial market as well as on foreign markets. The shares were put on the market on certain conditions according to which 42 per cent were reserved for British institutional investors, 10 per cent for the 40,000 employees and retired BA staff at a 10 per cent discount, 28 per cent were offered to the public, and 20 per cent were allocated to foreign investors. The purpose of the distribution of shares was to provide a nucleus of institutional shareholders, an involvement in the company by the general public and British Airways staff as well as international interest. In 1996, the number of private investors in BA amounted to 235,000, among them 65 per cent of the company's own employees. [93]

National ownership of the SAS Group in Scandinavia is shared between Denmark and Norway each with a 2/7 share and Sweden with a 3/7 share. The SAS Group is thus divided into three companies: SAS Denmark Ltd., in which the Danish government owns 50 per cent of the shares, the other 50 per cent being owned by private investors. SAS Denmark shares are listed on the Copenhagen stock exchange. The shares of SAS Norway Ltd. are divided into equal numbers of A and B shares, all the A shares being held by the Norwegian government, while B shares are owned by private investors and traded on the Oslo stock exchange. Approximately 20 per cent of these are held by foreign investors. SAS Sweden Ltd. is 50 per cent government owned and 50 per cent owned by Swedish institutions, listed Swedish companies and private investors. Lufthansa in Germany - or Deutsche Lufthansa AG - has also been privatized and is now largely a privately owned company. The German government currently owns 35.68 per cent of the shares, but plans to sell its remaining shares as soon as the necessary preconditions have been established. Private investors own 49.30 per cent of the shares. The remaining 15.02 per cent of the shares are owned by the Kreditanstalt für Wiederaufbau, the State of Nord-Rhein-Westfalen, the German Post Bank, German Rail and the Gesellschaft für Luftverkehrswerte, the last mentioned owning 10.05 per cent, the others less than 2 per cent

[93] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.40

each[94]. Swissair is privatized to an even greater extent, with a minority of 20 per cent government ownership. Air France, on the other hand, is 100 per cent owned by the French state and has received large subsidies from the French government over the years. A restructuring plan was launched to improve the airline's productivity and to streamline the company in 1993, when it had a deficit of enormous proportions. The airline improved its performance during the years 1993-96 as a result of personnel reductions, group restructuring and a general reduction of operating costs and expects to break even in 1997.93 European airline companies such as Alitalia, Olympic Airways and Iberia are still largely public-sector owned: in 1992 Alitalia by 84.9 per cent, Olympic Airways and Iberia by 100 per cent publicsector capital.[95]

There were initially reforms of domestic policy within a some EU members. Some, such as in the UK, were de facto changes and did not entirely free up the market. They saw the national regulatory agency being more liberal in the allocation of licenses and acceptance of fare flexibility. Some countries – e.g., France, Spain, Italy, and Germany – were less inclined towards unilateral domestic liberalization. Reforms were gradually accompanied by greater private sector involvement in the sector. In some instances (e.g., British Airways), there was complete privatization of former state companies at an early stage. More common (in Germany and the Netherlands) was a gradual selling off of stock. Airports and other fixed infrastructure, outside the UK where main airports were privatized as the British Airports Authority in 1987, have tended to remain in the public sector.[96]

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[94] Lufthansa Facts & Figures, 1996, p.14
[95] Brueckner J.K.., 2004, " European Airline Mergers, Alliance Consolidation, and Consumer Welfare", Netherlands
[96] Button K., , 2002, "Towards An Efficient Air Transport Systems", p.43

Table 1.6 Estimated Implications of the Usair/British Airways and Northwest/KLM Code Sharing Arrangements in 1994 ($ Million)[97]

Airline	Revenue	Cost	Net Profit	Consumer Benefit	Social Benefit
USAir / BA alliance					
USAir	7.9	-2.3	5.6		
Other US carriers	-41.7	14.9	-26.7		
US total	-33.8	12.6	-21.1	4.9	-16.2
British Airways	45.8	-18.6	27.2		
Other Non-US carriers	-1.3	0.5	-0.8		
Non-US total	44.5	-18.1	26.4	5.4	31.8
Grand Total	10.7	-5.5	5.3	10.3	15.0
Northwest / KLM alliance					
Northwest	24.6	-8.5	16.1		
Other US carriers	-25.6	9.9	-15.7		
US total	-1.0	1.4	0.4	13.0	13.4
KLM	18.6	-8.0	10.6		
Other non-US carriers	-16.5	7.9	-8.6		
Non-US total	2.1	-0.1	2.0	14.1	16.1
Grand Total	1.1	1.3	2.4	27.1	29.5

In some instances (e.g., British Airways), there was complete privatization of former state companies at an early stage. More common (in Germany and the Netherlands) was a gradual selling off of stock. Airports and other fixed infrastructure, outside the UK where

[97] Button K., ,Haynes K., Stough R., 1998, "Flying Into The Future", Great Britain, p.135

main airports were privatized as the British Airports Authority in 1987, have tended to remain in the public sector.[98]

1.4.3.2 State Aid

For the general economical theroies, company crisis brings up whole economic crisis to the country. In these situations governments mostly subsidy some companies for reviving economy. EU competition law lets some aids (local developments, to encourage policies that bases on public utilities, protecting the environment, research and development, education). However, if there would be an anti-competitive situation in the Union because of the state aid, it would not been allowed by EC Treaty. Priviling some companies or products towards other companies or products, would damage the competition. So, the concepts of the aids are very important. The aid mustn't affect the domestic market process such as social aids for consumers and aids for extraordinary events and natural disasters.

In this title, funds that provided by EU are described with table and illustrations according to which criterias to transfer and how much state aids taken by the companies.

Within the European Union, state-owned airlines have gone through a two-stage process. Following large losses in the early and mid-1990s, their governments pumped in huge funds to enable their airlines to carry out both the financial restructing mentioned above and to implement a recovery plan. The assumption, in some cases only implicit, was that this was the first step in moving towards privatization. Given that this so-called "state aid" was highly controversial and has been heavily criticised by Europe's private airlines, it is worth considering whether such government aid was and is justified and whether it has distorted airline competition in Europe.[99]

Between 1991 and 1994 most European airlines experienced heavy losses whether state or privately owned many required major capital injections in order to enable them to restructure and survive after a period of large losses.

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[98] Button K., , 2002, "Towards An Efficient Air Transport Systems", p.43
[99] Doganis R., "The Airline Business in the Twenty-first Century", Routledge, p.201

In addition, over US $ 1.1 billion of capital was injected into these airlines. But this was not classified as state aid. The Commision judged that a private investor would have considered it a commercialy viable investment to inject this sums into the airlines at that particular time. [100] But even those privatised airlines, which were relatively more profitable, required new capital from shareholders through rights issues or other means (such as conversion of bonds).

Britisih Airways ($ 665m), Lufthansa ($ 730m) and KLM ($ 480m) were among these. It should also not be forgotten that some of these airlines had themselves received direct or indirect government financial support in the past.[101]

These subsidies created reaction and opposition from those airlines which had not received any aid and which had been largely dependent on rasing capital from private or commercial sources. Airlines which their capital relys on private or commercial sources have argued that state aid leads to a distortion of the competitive working of the free market.

Table 1.7 Government Shareholding Airlines, January 2000[102]

Airlines	**%**	**Airlines**	**%**
Aer Lingus	100	Air France	64
Olympic	100	Finnair	59,8
TAP-Air Portugal	100	Iberia	54
Turkish Airlines	98,2	Austrian	51,9
CSA Czech	83,7	Sabena	33,8
Cyprus Airways	80,5	KLM	25
Alitalia	67	Swissair	21,5

[100] WELLS T. Alexander, WENSVEEN G. John, 2000, "Air Transportation", United States, p.57
[101] Doganis R., "The Airline Business in the Twenty-first Century", Routledge, p.202
[102] Button K., ,Haynes K., Stough R., 1998, "Flying Into The Future", Great Britain, p.131

Table 1.8 State Aid and Capital Injections to Airlines of the European Union 1990-97[103]

Airline	**Capital injection (US$ millions)**
Commision-approved state aid	
Sabena (1991)	1.800
Iberia (1992)	830
Aer Lingus (1993)	240
TAP (1994)	1.965
Olympic (1994)	2.245
Alitalia (1997)	1.708
Not classified as state aid	
Air France (1991)	338
Sabena (1995)	267
AOM (1995)	49
Iberia (1995)	593
Private Sector	
British Airways (1993)	690
KLM (1994)	620
Lufthansa * (1994)	710
Finnair (1992/94/95)	175

* Note : German government also contributed DM 1.55 billlion (about US$ 900 million) to the Lufthansa pension fund in 1995

The commission did allow airlines serving the North Atlantic to claim modest amounts of special aid in 2001 to tide them over the sudden loss of revenue which followed the terrorist attack on the World Trade Center in New York on 11 September 2001. The rules on state aid are contained in Articles 92-94 of the EC Treaty. For a long time these rules were not applied in the air transport sector, although the Commission had published guidelines on their application as early as in 1984 in its second memorandum Progress towards the development of a Community air transport policy. Furthermore, it had been clear since the Nouvelles Frontières judgment in 1986 that the state aid rules applied fully to air transport.

[103] Gillen D., 2001, "Recent Air Transport Developments in the EU", Canada, p.15

1.4.3.2.1 Commission's Development Efforts in Airline Sector

State aid as mentioned above is a very sensitive issue. Commission should be meticulous when deciding on a subvention to airline firms as well as other firms. Many state aids have been rejected and many of them have not been named as state aids. Below this title will be studied the policies the commission has followed and the concepts of those aids.

In February 1994, the research group appointed by the Commission handed over its final report. The research group had been appointed by the Commission in 1993 to analyse the problems of the air transport sector and put forward proposals which would enable the Commission to prepare a concerted action programme aimed at improving the competitiveness of the European airline industry. The Committee was of the opinion that the main causes of the financial crisis in the air transport sector were the fragmentation of the European airline markets and the inefficiency of many of the national air transport systems. The Committee recommended effective enforcements of the provisions for the internal market by addressing sensitive issues like state aid, mergers and alliances. As regards state aid in particular, the Committee recommended that the Commission's one time/last time approach be implemented strictly, so that state aid could only be granted in exceptional circumstances and for restructuring purposes only. Later in 1994, the Commission issued a Communication called the way forward for civil aviation in Europe as a follow-up to the report of the Comité des Sages, in which the Commission reaffirmed that state aid for the restructuring of air carriers could only be accepted if it did not distort or threaten to distort competition. [104] In November 1994, the Commission adopted a series of guidelines for state aid which reflected the completion of the internal market for air transport and was intended to increase transparency at different levels of the evaluation process. Article 92 of the EC Treaty prohibits state aid as incompatible with the common market when it distorts or threatens competition by favouring certain undertakings or the production of certain goods, except in certain exceptional circumstances, such as aid having a social character, aid to make good damage caused by natural disasters and aid granted to

[104] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.44

the former East Germany. Aid may be considered compatible with the common market, if it is granted to promote the economic development of areas where the standard of living is abnormally low, to promote a project of common European interest or to facilitate the development of certain economic activities. State aid to airlines, when permitted, usually falls under the last-mentioned clause. Article 93 contains the procedural rules for the Commission and Article 94 authorizes the Council to make regulations for the application of Articles 92 and 93.[105]

The Commission declared some requirement that carriers must have. The requirements were that:

- Aid should be part of a comprehensive restructuring programme;
- Capacity reductions must be included;
- Aid must not aim to increase capacity to the detriment of other European carriers;
- A national government must not interfere in the management of the company;
- Aid must be controlled and transparent. Aid may be considered compatible with the common market, if it is granted to promote the economic development of areas where the standard of living is abnormally low, to promote a project of common European interest or to facilitate the development of certain economic activities. [106]

State aid to airlines, when permitted, usually falls under the last-mentioned clause. Article 93 contains the procedural rules for the Commission and Article 94 authorizes the Council to make regulations for the application of Articles 92 and 93. [107]

The Commission's first major investigation took place in 1991, when the Commission approved the giving of aid to Sabena by the Belgian government, but subject to certain

[105] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.44
[106] Button K., ,Haynes K., Stough R., 1998, "Flying Into The Future", Great Britain, p.135
[107] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 115

conditions designed to ensure that the aid was part of a restructuring package, namely that the Belgian government would not interfere in the management of Sabena and that the aid should be the last.

In 1991 and 1992, the Commission examined two cases of the grant of state aid to Air France. In each case, it found that the injections did not constitute aid, because they were such as might have been made by an ordinary private investor under normal market economy principles, chiefly on the basis that at that time Air France seemed to provide a good investment opportunity.

In 1992, the Commission considered that the financial help of the Spanish government to its national airline Iberia was a case of state aid - not an investment - to finance an ambitious expansion programme in Central and South America. The Commission allowed it, but imposed conditions similar to those imposed in the Sabena case. The Commission did not issue formal decisions in the Air France and Iberia cases, only brief press releases describing the reasons for its conclusions. In 1993, the Commission made a formal decision concerning state aid granted by the Portuguese government to its national airline, TAP. The aid was granted in the form of exemption from corporate income tax. The Portuguese government argued that the grant of this aid was justified by the fact that the airline systematically showed losses, and therefore no corporate income tax could be applicable in any case. The Commission, on the other hand, emphasized that, in principle, tax exemptions granted to natural or legal persons constitute state aid under Article 92 of the Treaty. The Commission felt that the tax exemption benefitting TAP strengthened the competitive position of the airline vis-à-vis other Community carriers which were subject to tax burdens and affected intra-Community trade. Under these conditions, the Commission called on the Portuguese government to withdraw the aid in question. [108]

State aid provided by the Irish government to the Aer Lingus group in 1994, given in the form of £ Irl 175 million equity injection. The Commission referred to the exception in

[108] Balfour J., 1990, "The Second EEC AIR Transport Package - Substance or Packaging in European Business Law Review", ,p.1040

Article 92(3)(c), in other words, aid to facilitate the development of certain economic activities. The airline's difficulties resulted from expanding its fleet during the 1980s, just before demand for air travel declined at the time of the Gulf War and recessions in the American and European economies. In addition, Aer Lingus had been used as a vehicle for regional development policy. The Irish government confirmed that the money granted would be used entirely to meet restructuring costs and reduce the debts of Aer Lingus in order to restore the company's financial position. The Commission prohibited the Irish government from granting any further aid to Aer Lingus. It also made it a condition that capacity be constrained on routes between Dublin and London in response to a vigorous complaint by British Midland that the aid should not be used to allow Aer Lingus to compete unfairly with it on this route[109].

Also in 1994, the Commission authorized state aid granted to Air France by the French government to the amount of 20 billion. Furthermore, the Commission insisted that the French government must not interfere in the management of Air France for other reasons than in its role as a shareholder; that the aid should be used exclusively for restructuring purposes; that the French authorities should not give Air France preferential treatment; and that the French authorities would not grant further capital or any other aid in any form to Air France. [110]

The Commission authorized state aid by the Greek government to Olympic Airways for 545 billion Greek drachmas (US$ 2.2 billion) as part of a restructuring plan in 1994 on certain conditions: the Greek government undertook no longer to intervene in the management of Olympic Airways except within its strict limits as a shareholder, to confer on the airline the fiscal status of a public limited company, to grant no further aid in any

[109] Commission Decision O.J. No. L 54 of 25 February 1994, p. 30.
[110] EATON Jack, 1996, "Flying the Flag For Subsidies-Prospects for Airline Deregulation in Europe in Intereconomics", p.150

form and to adopt the legislation needed for effective implementation of the social and financial aspects of the plan. [111]

In 1995, the Commission allowed the German government to contribute to pension funds for Lufthansa employees. This aid consisted of a financial contribution of the Federal Government of DM 1.55 billion over a period of 15 years. The German government contribution also included a guarantee designed to cover the payment of supplementary pensions, should Lufthansa ever be unable to meet its obligations. Following the recent privatization of Lufthansa, the airline company must - as a private company - establish a supplementary pension fund itself, which would require a capital reserve of DM 1.6 billion, putting a huge financial burden on the Lufthansa privatization programme. This is the reason why the Commission approved of the measures adopted by the German government.

Accordingly, the Commission decided that the latest capital injection in 1996 should not be treated as a state subsidy but as an investment by a public shareholder that could be justified on commercial grounds.

It has been argued that state aid, which is sometimes big enough to start a new airline, could be employed better in this way, and that state aid lessens the airline in question's incentive to improve its efficiency. In the wider context, it has been argued that liberalization of the market for air transport is a hopeless venture, because the market obstinately reflects a bilateral regime based on the nationality of airlines designated to use traffic rights. Under the prevailing bilateral system the only way to introduce an international airline is to create a new nationality out of the different nationalities of the merging airlines.

1.4.3.3 Foreign Ownership

After completing its development in the domestic market, EU got rid of its protective policy and started to use its Common Trade Policy as a tool to give a direction to

[111] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.44

globalization. Thus, it turned out to be an actor focused on developing and determining the world trade rules signing both mutual and regional contracts. This contributed to making the world trade freer at global level. It can be said that the final destination of EU in the process of economic integration is to constitute a Market where goods, individuals, services and capital are secured to travel freely.

Under this title, some information about EU regulations and their limits concerning foreign ownership will be given.

Against the backdrop of increasing growth in world traffic and financial pressures, a key development in the past decade has been to ease restrictions on the foreign ownership of international carriers. Therefore, a key strategy to increase competitiveness is not only to privatize, but also to allow foreign entry.

Liberalizing foreign investment regulations is perhaps one of the most contentious issues in the governance of the international air transport industry. The current system of regulation allows many national governments to grant market access only to designated 'national' airlines. Many people argue that foreign investment liberalization acts as an anchor to growth in the industry. Furthermore, the restriction of equity alliances amongst air carriers can create an incentive to engage in nonprice competition in the form of non-equity alliances.

Table 1.9 Foreign Ownership Regulations in Air Transport, 2002[112]

Country	Limit	Notes
Argentina	49%	In the case of Aerolineas Argentinas, 85% shareholding by Interinvest (Spain, US etc.) was allowed.
Australia	49%	There are no foreign ownership restrictions for purely domestic operators. For Australian international operators, foreign shareholder participation is limited to 49% "unless this is contrary to the national interest". Qantas is regulated under the provisions of the Qantas Sale Act of 1992. Aggregate foreign ownership is limited to 49% with up to 35% allowed to be held by foreign airlines, with a maximum of 25% for any single foreign airline.
Brazil	49.50%	Since 1997 (previously 20%).
Canada	25% (voting)	Exceptions may be granted by the competent regulatory authorities.
Chile		No restriction but airline must have its principal place of business in Chile.
China	35% (25% voting)	Since May 1994, intended to change to 49%.
Czech Republic	49%	At least 51% shares and voting are owned and controlled by nationals.
EU Member States (15)	less than 50%	Bound by EU Regulation 2407/92 (community carrier) for investors from non-EU Member States, but no restriction on investments from EU Member States.
Japan	33.33%	Japanese carriers must be owned, controlled and managed by more than two-thirds by Japanese nationals.
India	40%	40% in private domestic airlines, but investments from foreign airlines or airport investors are not allowed since April 1997.
Indonesia		Initially 49%, abolished by a Presidential decree in 2000.
Kenya	49%	
Korea, Rep. of	less than 50%	Raised from 20% to 49.99% on 12 February 1998, provided that effective control remains with Korean nationals.
Malaysia	45%	Applied to Malaysia Airlines, changed from 30% to 45% in July 2000.
Mexico	25% (voting)	Since 1994 allows over 25% limit if investment through firms where foreign investment is less than 50% of voting stock.
New Zealand	49%	Since 1996, 25% for single foreign airline, and 35% for total foreign airlines. At least 50% ownership and effective board control by Australian and/or New Zealand nationals (SAM airline).
Peru	70%	Since 1997.
Philippines	40%	Airlines are considered to be public utilities. All executive and managing officers must be nationals.
Poland		Air Law of 1962 (Article 65a) requires authorization by the Minister of Transport and Maritime Economy.
Russian Federation		In 1997 the Russian Government introduced rules which would bar foreign majority ownership in joint venture airlines.
Singapore		There are no formal restrictions on ownership of Singapore companies.
Switzerland	40%	After joining the European Common Aviation Area (ECAA), same rules as for EU Member States.
Taipei, Chinese	33%	Domestic airlines, 50% apply to air-cargo since 1997.
Turkey	49%	Turkish airlines must be incorporated in Turkey and majority-owned, controlled and managed by Turkish nationals.
Thailand	49%	Requirement of state ownership in Thai International reduced from 70% to 51%. Angel Air's foreign equity limitation was changed from 15% to 30%.
United States	49% (25% voting)	Two-thirds of the board of directors must be nationals and effective control must be national. Could be subject to control test.

[112] Aveliable on site : http://www.icao.int

1.4.4 COMPETITON AND CONSOLIDATION IN EU MARKET

The alliances that airlines usually form in order to increase their flight frequency and market share include include alliances such as common programming (code sharing alliances) and hub coordination.

European airlines form an alliance considering various aims. These are market centered alliances intended to increase the market share. The purpose here is to reinforce hold over the market and gain share from other markets. Another is Cost centered alliance which aims at decreasing costs. There are also strategic and tactical alliances, which are intended to share information and technology. Firms are certainly to obey the competition rules set by the EU when realizing these objectives.

Henceforth, EU competition law, alliances, mergers, conceptions and commission control will be studied as subtitles.

1.4.4.1 Competition Rules

The fact that firms want to keep their market share and increase their profit in the developing economy force them into a competitive situation. Lack of legislation in competition and that every state has its own legislative structure make it difficult to solve the problems among firms and cause the judicial and solution process to be very long. This jeopardizes the economy and the economic situation of the two firms concerned. Thus, firms encounter anti-competitive situations which decrease their profit and causes unfair competitive situations. For that reason, in a union like EU consisting of 25 countries competition rules are very important and functional. Deficiencies in such a legislative issue may affect the firms in those 25 countries and the future structure of the EU. Since especially in the area of air transportation side sector will also be affected, this part is necessary.

After the development of liberalisation, privatization and globalisation, different markets in the world have become closely interconnected without being fully integrated and the

European aviation industry has fundamentally changed. Presently air carriers can establish themselves anywhere within the common market and are completely free to provide their services on any routes within the common market. [113]

Due to the lack of international rules, undertakings that implement their economic activities in several countries are subject to different national competition rules. Procedures, time limits and the criteria for making decisions vary from one nation to another. This differences rice costs, increase uncertainities and constitutes barriers to the expansion of trade and internation investment. [114]

In dealing with anti competitive practises involving foreign elements, some countries seek to solve the problems by extending the scope of their competition rules. However, this approach could triger conflicts between competition authorities. In the absence of international rules, it is necessary to seek a more systematic and complete approach to restrict the impact on competition resulting from globalized economic activites. Accompanied by the introduction of various new competition legislations in different countries, the application of different competition law to global economic activites might cause incoherent or even directly contradictory conclusions to be reached by different enforcement authorities. The authorities of different countries may claim jurisdiction over the same subject matter. Therefore international co-operation between competition law enforcement authorities is relatively important at this stage.

With the goal of defending and facilitating the single common market, the EC Competition policy obejectives in the post-Uruguay Round era will be extending the Commision's bilateral co-operation with third countries and developing a multiliteral frame work in order to ensure that countires involved comply with certain basic competiton rules.

The application of the competition rules to air transport is governed by three different regimes.

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[113] Van Miert K., "Translantic Competition Policy",p.265

[114] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 115

- Articles 85 and 86 are fully applicable to all air transport within the Community as a result of Council Regulation 3975/87.

- Because there is no implementing regulation for air transport between member states and third countries such air transport is governed by the interim regime referred to in the Nouvelles Frontières case and provided by Articles 88 and 89. This means that the national competition authorities of the member states and the Commission may apply the rules in Articles 85 and 86 in this area; an agreement is automatically void under Article 85, and a national court may not apply Article 85 unless and until the Commission or the national competition authorities of a member state have taken such a decision; Article 86 is directly applicable without any such prior decision and may be applied by the national courts.

- The special regime for the application of the competition rules to air transport within the Community only applies to air transport as such. Any other activity connected with air transport, but not itself constituting air transport, is governed by the general implementing competition regulation. [115]

Nowadays, undertakings that are not present in several countries often penetrate foreign markets via their international partners, through means such as forming alliances. The liberalisation of trade also provides for the inter-penetration of markets around the world and unprecedented inter-dependence between.

1.4.4.2 Airline Alliances and EU Air Transport

Many firms in the air transport market have formed alliances to reinforce their present situation and not to lose their market share. These alliances are considered to be policies that increase productivity of firms and compensate deficiencies of one another and make it possible to produce services at lower costs.

[115] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.38

This policy encourages air transportation companies that are not only in EU but also in the world to set alliance together. As a result of liberalization, efforts to go into the various markets are increased and this situation results in alliance.

In this title, three aspects of partnership agreements will be described. Practically all the European airlines have entered into partnership agreements both between themselves but also with American and Asian airline companies. These agreements vary a good deal in their content, and an overview is presented.

In the European Community, the Commission has two means of controlling such agreements, either by applying Article 85 or the Merger Control Regulation. If an agreement falls within the area of prohibited agreements in Article 85(1), the airline company in question may apply to the Commission for an exemption under Article 85(3), which the Commission may grant or not. If an agreement falls under the Merger Regulation, it must be notified to the Commission, and the Commission will then consider if the merger or alliance is compatible with the common market or will lead to the creation of a dominant position as a result of which effective competition will be significantly impeded in the common market. [116]

1.4.4.2.1 The Concept of Airline Alliances

The alliances of the companies by means of combination, taking over or enterprising as partners generally create positive impact on the market. The connection of the activities of the companies make a coordination possible for them in many other fields such as researching and innovating new products or taking reorganizing steps which decrease the costs of production and distribution for the new company. Thus, they become much more productive in the market. Competition becomes denser and the last customer can exploit from the products of higher quality at cheaper prices. In addition to the globalization of the trade, the development of a sole market in the EU is directing the companies to make alliances in the purpose of reaching a dimension in which the companies will be able to

[116] Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p. 121

maintain their power of competition and take part in the continuously expanding markets. In the last few years the tendency of alliance has gained momentum in the EU. Almost in every sector alliances have been being realized and much stronger structures have been being formed in these combinations. Under this heading, the concepts of the alliances of the airline companies will be dealt with.

The objective of partnership agreements is to create competitive advantages for the partners by complementing each other's services and by achieving economies of scale, particularly in maintenance and marketing costs, while still keeping their independence. European airlines in particular favour the partnership strategy, although since 1993, American companies are also looking for alliances. Most of the agreements made between the European airlines follow a pattern set by British Airways. Agreements can take different forms including equity participation by partners in each other's companies. Usually the partner airline to an alliance brings its existing partners into the consortium and airlines can be involved in several alliances with different objectives. For instance, an airline may have a ground handling alliance with one company and a sales alliance with another.

Thus, Swissair, SAS and Austrian Airlines had a commercial agreement to merge their sales, reservation and passenger services; KLM has extended preferential arrangements and in some cases takes equity participation in airlines that supply its long-haul network at its Amsterdam hub. The agreement with NorthWest Airlines is an example of this. Lufthansa has made an agreement with Air France and Japan Airlines to fund a construction project for a new terminal at New York's Kennedy airport. British Airways and USAir as well as KLM and NorthWest have agreed to merge their reservation services and to include code-sharing. The agreement between British Airways and USAir was substituted by an agreement between British Airways and American Airlines in 1996.[117]

The purpose of airline alliances and agreements can usually be divided into three main categories:

[117] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.45

- Purely commercial agreements for the purposes of joint marketing;
- Alliances for the purposes of control and the acquisition of capital interests;
- Franchising agreements.[118]

The commercial agreements are distinguished according to whether they are tactical or strategic. The tactical agreements usually comprise one specific activity, such as a joint marketing programme or co-operation on a specific route (code sharing), while the strategic alliances cover many different activities, such as marketing, technical operations, representation and administration (code sharing) and may have long-term objectives. Alliances for the purpose of acquisition of capital interests were rare at the beginning of the 1990s, but some airline companies, such as Tyrolean and Air UK, were able to attract potential investors during that period. On the other hand, airlines may also want to divest themselves of capital interests in other airline companies, which was the case when Air France decided to sell its capital interests in Sabena, which it had acquired in 1992.

In the meantime, 49.5 per cent of the capital in Sabena had been acquired by Swissair. But there is a general tendency towards co-operation and consolidation. All the national airline-companies in the EC have subsidiary companies or big or small capital interests in other airline companies both inside and outside Europe. This form of co-operation is based upon three different strategies.

First, to obtain control over the airline's own market; examples are the mergers between Air France-Air Inter, British Airways-British Caledonian-Dan Air, Austrian Airlines-Tyrolean. Second, to establish the airline on another European market; examples are the mergers between Lufthansa-Business Air-Lauda Air on one hand and British Airways-Deutsche BA-TAT on the other. Third, to forge global alliances such as KLM-NorthWest, British Airways-American Airlines, United Airlines-Lufthansa, in some cases, the alliances are made without any intention of taking over or acquiring capital interest.

[118] Sawers D., 1987, "Competition in the Air – What Europe Can Learn from the USA, London, p.81

The alliance between SAS, Swissair and Austrian in 1991 is an example of this. Later a more comprehensive alliance was made between SAS and Lufthansa under which the two airlines agreed to establish a joint frequent flyer programme, joint ground handling services and code sharing. Most of the alliances which do not involve the acquisition of capital interests will include code sharing. Franchise is a new concept in the area of air transport. As an example, five British airline companies now have a code sharing agreement with British Airways. They fly under the British Airways logo and symbols, the colours of BA are used for uniforms, cabin design, duty-free shops etc., and they share a number of services such as revenue control, the administration of frequent flyer programmes, reservation systems, etc. The participating airlines (City Flyer, Manx, G-B Airways, Loganair, Maersk) are committed to uphold the British Airways level of service, and they must pay a fee for the arrangement to British Airways.[119]

To sum up, the main alliances between airlines in Europe with airline companies both in the US and in Asia are the following:

- Lufthansa, SAS, United Airlines, Emirates, Thai Airways, Austrian Airlines Air Canada and South African Airways. Lufthansa has several other, smaller alliances with partners both inside and outside Europe, among these partners is Finnair; (Star Alliance)

- Air France, Continental Airlines, Delta Airlines, British Air, Alitalia and Iberia; (Sky Team)

- British Airways, American Airlines, Qantas, Deutsche BA, TAT and Air Russia (the three last-mentioned have been acquired by BA); (One World)

- Delta Airlines, Sabena and Swissair.

Air Canada joined the Lufthansa alliance (1) and, as from 1 May 1997 the alliance is called the Star Alliance. On 1 October 1997, the alliance was joined by the Brazilian airline company Varig. The alliance is strategic and will among other things involve a pooling of

[119] Commission Report of 22 October 1996 COM (96) 514 final, pp. 19-20.

the companies' FFPs. Even though the alliances themselves are not a direct consequence of the liberalization of air transport in the EC, the third package helped to promote this type of agreement. There were 59 alliances in 1990, 138 in 1994 and 171 in 1995. [120]

These alliances were born mainly out of the need to cope with the restrictions on competition in air transport. A multitude of bilateral agreements between individual countries makes it difficult for airlines to start operating in other regions as they do not have the necessary traffic rights. External growth has also been blocked so far by clauses that make a carrier's traffic rights dependent on the nationality of its ownership. Airlines thus continue to face high hurdles to both internal and external growth. The economies of scale and synergies that expansion or mergers can bring are almost precluded in aviation.

[120] Eaton J., 1996, "Flying the Flag For Subsidies-Prospects for Airline Deregulation in Europe in Intereconomics", p.165

Table 1.10 Alliances between Air Carriers[121]

SKYTEAM			
Members	Passengers (Thousands)	RPKS[1] (Scheduled Millions)	ASKS[2] (Scheduled Millions)
Aeromexico	8835	12982	19965
Air France	44405	99863	131719
Alitalia	22259	28170	39023
Continental	39856	94783	125589
CSA	3344	4784	6622
Delta	84124	143478	192975
KLM	18741	56555	71366
Korean Air	21270	39986	58284
Northwest	52788	110199	142573
Total	295622	590750	788120
STAR ALLIANCE			
Members	Passengers (Thousands)	RPKS[1] (Scheduled Millions)	ASKS[2] (Scheduled Millions)
Air Canada	19857	59018	79630
Air New Zealand	10123	22689	31041
ANA	43388	52077	81297
Asiana	11703	16156	23761
Austrian Airlines	6895	14537	20387
bmi	9113	6514	9972
Blue1	628	411	920
LOT	3252	5434	7592
Lufthansa	44477	96617	124166
SAS	26537	26733	39480
Singapore Airlines	13124	63816	88580
Spanair	5831	5143	7979
TAP Air Portugal	5841	12012	16837
Thai	16623	44773	63952
United Airlines	66526	167136	217798
US Airways	41251	60736	82870
Varig	11329	26081	36605
Total	336496	679883	932887
ONEWORLD			
Members	Passengers (Thousands)	RPKS[1] (Scheduled Millions)	ASKS[2] (Scheduled Millions)
Aer Lingus	6596	9963	12271
American	86798	198135	265199
British Airways	34815	100426	137483
Cathay Pacific	9991	42727	59224
Finnair	5556	8641	13792
Iberia	25087	41956	55930
LAN	5509	13255	19013
Qantas	23520	68923	89064
Total	199872	479026	651976

[121] RPKS – Revenue passenger kilometers.
ASKS – Available seat kilometers.
Note: All data sourced from IATA WATS 2004; figures relate to 2003. TAP Air Portugal Joins the Star

1.4.4.2.2 Airline Alliances and Commission Control

Despite the fact that alliances have some assistance on the economy in general, it may cause monopoly, cartel or trust under some circumstances. The misused alliances and the alliances which exceed their purposes create a great risk in liberal economies because as a result of these alliances, markets based on monopoly come into existence and entering these markets become rather difficult and holding onto the market almost impossible. On the other hand, in free market economies the market is common and should be open to everyone. Commission is controlling these alliances according to some legal basis in advance so that the dominated condition is not misused and the factors limiting the competition are abolished. The legal base of these controls with the EC Treaty found room in the legislation of the EU and its application is given to the commission.

In this part, some information and examples on which criteria these controls are done and how they are applied to the airline companies will be given.

In the European Community, the Commission has two means of controlling such agreements, either by applying Article 85 or the Merger Control Regulation If an agreement falls within the area of prohibited agreements in Article 85(1), the airline company in question may apply to the Commission for an exemption under Article 85(3), which the Commission may grant or not. If an agreement falls under the Merger Regulation, it must be notified to the Commission, and the Commission will then consider if the merger or alliance is compatible with the common market or will lead to the creation of a dominant position as a result of which effective competition will be significantly impeded in the common market. [122].

Alliance in March 2005.

[122] Balfour J., 1990, "The Second EEC AIR Transport Package - Substance or Packaging in European Business Law Review", ,p.1036

1.4.4.2.2.1 Airline Partnership Agreements and Competition, Article 85 of the EC Treaty

As it is in all sectors, in aviation sector, alliances of the companies increase the market shares of the companies and make their profits continual. But as it is stated in the previous sections, these alliances may have some sides which distort competition. Thus, alliances should be evaluated not only by regarding the companies but also the state. The EU brings about two items in the EC treaty in order to do away with the negative impacts of the alliances on the competition. These are the 85th and 86th items of the EC. The 85th item of the treaty bans competition- distorting, hindering and limiting inter-company treaty if the independence of competition is misused. The 86th item of the treaty bans the misuse of more than one companies' dominant situations in the common market and in the considerable part of the market if they negatively affect the trade between the member countries.

The alliances including these legal restrictions and the samples related to these have been analysed under this heading.

As mentioned above, the application of Articles 85 and 86 of the EC Treaty on air transport between airports within the Community was effected by two Council Regulations: 3975 and 3976/87 as part of the first package in 1987. The Commission has issued a number of block exemptions under Regulation 3976/87. In the Commission Communication called The way forward for civil aviation in Europe, published in 1994 as a follow-up to the report of the Comité des Sages, the Commission mentioned application of the competition rules to the air transport sector as one of its priority fields. The Commission deemed that cost-saving forms of airline co-operation could play an important role in the restructuring process of the industry. The Commission would thus examine the possibility of establishing guidelines for the application of Articles 85 and 86 of the EC Treaty for different types of inter-airline cooperation to encourage efficiency and increase different forms of co-operation. So far the Commission has not issued guidelines in this area, however. In its 1996 report on air transport and the impact of liberalization, the Commission announces its

intention of putting forward proposals to widen the scope of application of Regulations 3975 and 3976/87, but it has not yet made good its intention. [123]

The Commission may itself initiate proceedings against airline agreements under Article 85, but so far there are no instances of the Commission completing an investigation started on its own initiative. However, the Commission has examined a number of applications for exemption of joint operating agreements between airlines, in some cases granting exemption and in others requiring the termination of the agreement, principally because the two airlines concerned were national carriers.[124]

One of the recent decisions in this area started as a result of a notification to the Commission of 11 May 1995 of a general co-operation agreement between Lufthansa and SAS providing for the establishment of an integrated air transport system between the two airlines. The two partners requested the Commission to find that their agreement did not infringe Article 85(1) of the Treaty or, alternatively, that the conditions were met for granting exemption under Article 85(3). The alliance was intended to establish an integrated transport system based on a comprehensive set of long-term commercial, marketing and operational relationships and involving integration of their worldwide networks and other operations.[125]

The Commission decided first of all that the agreement was a joint venture. The Commission next considered that the co-operation between Lufthansa and SAS was likely to increase the two airlines' economic power substantially. At the time when the notification was submitted, British Airways in terms of fleet size was in first place in Europe, Lufthansa second and SAS third - ahead of Air France[126]. The agreement would restrict potential competition not only between the two partners but also vis-à-vis third parties. The agreement was also likely to increase the two airlines' economic power

[123] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.46
[124] Balfour J., 1990, "The Second EEC AIR Transport Package - Substance or Packaging in European Business Law Review", ,p.1040
[125] Vellas F. and Lionel B., 1995, "In ternational Tourism", Macmillan, London,. p.149
[126] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.47

resulting from the co-ordination of their resources, the availability of the largest European fleet, the scope for interlining, the co-ordination of networks and the co-ordination of frequencies. The Commission took the pooling of the two airline companies' FFPs into account in assessing their economic power. Most of the customers were businessmen and they would clearly prefer airlines to have joint FFPs allowing them to earn points whichever airline they used. A common system was thus likely to constitute a not inconsiderable entry barrier to other airlines that did not have comparableprogrammes - as the Commission put it. Consequently, the Commission considered that the co-operation agreement between Lufthansa and SAS had as its object and effect the restriction of competition in breach of Article 85(1).

However, the Commission found that both Lufthansa and SAS differed from British Airways and Air France in having a higher proportion of intra- European routes and being correspondingly weaker on extra-European routes, SAS figuring largely on intra-Scandinavian routes and being thus far more regionally biased. In the light of these factors, the Commission found that the two networks of Lufthansa and SAS, respectively, were complimentary and that the pooling of the two networks would make it possible to improve the services rendered to consumers. In the light of this and other factors, the Commission was of the opinion that the agreement was likely to contribute to economic progress within the meaning of Article 85(3), and that the restriction of competition was necessary as the market stood.

The Commission granted an exemption on this basis under Article 6 of Regulation 3975/87 for a period of ten years until 31 December 2005, subject to certain conditions and obligations such as freezing the number of frequencies on certain routes, and allowing new entrants to serve on that route. As the Commission thought that the pooling by Lufthansa and SAS of their FFPs was likely to be a not inconsiderable barrier to market entry, the Commission also made it a condition that any other airline which provided or wished to provide services on the routes in question, and which did not have a frequent flyer programme applicable at international level, must be afforded the opportunity of participating.

The main features of the alliance were the setting-up of a joint venture for traffic between Germany and Scandinavia, worldwide co-operation involving joint network planning, a joint pricing policy and joint budgeting, including reciprocal access to frequent flyer credits, code-sharing, harmonization of service levels and integration of data processing, a single marketing strategy and the organization of a hub system. When the agreement was signed, Lufthansa and SAS were the only airlines operating eight routes with daily frequencies between Germany and Scandinavia, except for one frequency per day between Frankfurt and Copenhagen operated by Singapore Airlines. In terms of the number of passengers carried, these eight routes accounted for 66 per cent of all traffic between Scandinavia and Germany. The new entity would thus operate on 20 of the 25 routes between Scandinavia and Germany. 49 routes in the programme operated by Lufthansa and SAS. Lufthansa and SAS were also required to give up a number of slots to new entrants[127].

In October 1996, the Commission started formal proceedings on the basis of a notificationfrom the involved airlines of 11 June 1996 to look at an agreement between British Airways and American Airlines, primarily intended as a code-sharing alliance. The alliance replaced the former agreement between British Airways and USAir. The new alliance was intended to become effective only if a bilateral agreement between the US and UK governments were signed to liberalize flights between the two countries. This *open skies* agreement was subject to lengthy transatlantic negotiations. The open skies policy of the US intends to trade greater access to its mighty home market for liberal bilateral air treaties with as many takers as it can find. These bilateral open skies treaties allow airlines from the two signatory states the freedom to operate where and when they want and charge whatever fares they wish.

The US follows its policy of picking off individual countries, which is easy enough in a European Community which remains disunited As a result of the difficulties which the Commission experienced with the British government, it has also opened retroactive investigations into all the existing alliances between European and American airline

[127] Commission Decision of 16 January 1996 96/180/EC which came into operation on 26 January 1996.

companies, notably the alliances between Delta Airlines of the US, Sabena, Swissair and Austrian Airlines and between Lufthansa, United Airlines and SAS as well as the alliance between KLM and NorthWest Airlines.

At the same time, the Commission started - on its own initiative - retroactive investigations into the co-operation agreements concluded between Delta Air Lines, Sabena, Swissair and Austrian Airlines and the compatibility of these agreements with Article 85 of the Treaty. The agreements consisted of three separate and parallel co-operation agreements between Delta and each of the involved European carriers and a co-ordination agreement among the four carriers covering the co-ordination of the three co-operation agreements.

By entering into the alliance, the main goal of the air carriers concerned was to form a multi-hub network across the Atlantic by linking the US and European hubs of all four parties in order to compete effectively with other global transnational alliances. It was the intention of the parties toexpand their existing co-operative marketing relationships and create a seamless air transport system, while retaining their separate corporate and national identities. There were two cooperation programmes in the agreement, one for passengers and one for cargo. The passenger programme covered marketing and sales programmes, co-ordinated schedules, shared revenues/earnings, co-ordinated pricing and inventory control, co-ordinated commission programmes, joint use of data and information systems, joint advertising/media programmes.

1.4.4.2.2.2 Airline Take-Overs, Mergers and Concentrations

The airline companies benefit from various policies so as to hold on to the competitive market stemming from the increasing competition in the air transportation due to the globalisation and also to increase their share of the market. Airline companies complete each other's technological deficiencies and their deficiencies related to infrastructure with these policies and thanks to alliance they give much better service to their customers. And also it helps decrease their costs. But these alliances and takeovers may have some negative impacts on the market time to time. We have observed the sanctions conducted by the commission against the misuse of this situation and the precautions taken before the

alliance.

Under this heading the differences between the takeovers, mergers and concentrations and their concepts have been observed.

The Merger Regulation imposes a duty on merging companies of a certain size to notify the Commission of the agreement - often termed concentration. The Commission then considers if the merger is compatible with the common market or will lead to the creation of a dominant position for the merging companies as a result of which effective competition will be significantly impeded in the common market. [128]

Before the coming into operation of the Merger Regulation, the Commission was quite active in monitoring concentrations between airlines. The first case in which it intervened was in 1986 when British Airways acquired British Caledonian, and over the subsequent years it similarly investigated the acquisition of UTA by Air France and the increase by KLM of its shareholding in Transvia. In each case, the Commission reached a settlement with the parties whereby the Commission permitted the acquisition to proceed, but on the basis of certain undertakings and conditions designed to preserve and foster competition. The legal basis on which the Commission did this was unclear, but it can only have been under Articles 85 and 86 of the Treaty.[129]

Since the coming into operation of the Merger Regulation, the Commission has examined five cases of concentrations between airlines: Delta and Pan Am in 1991, Air France and Sabena in 1992, British Airways and TAT also in 1992, British Airways and Dan Air in 1993 and Swissair and Sabena in 1995.

The Delta-PanAm case was remarkable in being a concentration between two non-EC airlines, but the necessary Community-wide turnover existed to subject the concentration to the scope of application of the Merger Regulation. However, the Commission concluded that it would have no appreciable effect on competition, principally because of the highly

[128] Gillen D., 2001, "Recent Air Transport Developments in the EU", Canada, p.16
[129] Balfour J., 1990, "The Second EEC AIR Transport Package - Substance or Packaging in European Business Law Review" ,p.1037

competitive nature of the transatlantic air service market. In the Air France-Sabena concentration, because of the geographical proximity of Paris and Brussels airports, there was a much greater potential effect on competition, but the Commission secured conditions and undertakings designed to create opportunities for competition on the routes on which the two airlines competed, namely the Brussels/Paris route, routes to Hungary and Turkey and long-haul routes to Africa. Air France decided to sell its capital interests in Sabena. The Commission took a similar approach to the overlapping markets in the British Airways-TAT case, although there were very few routes on which the two airlines competed. BA and TAT undertook - among other obligations - to offer to those competitors on the Gatwick-Paris route who did not themselves participate in an FFP the opportunity to participate in their FFP under reasonable and nondiscriminatory financial conditions, if they so requested. It was to be understood that such a commitment would terminate when Community regulations concerning FFPs were adopted.

The British Airways-Dan Air case was unusual, because, although the Commission found that the turnover of that part of Dan Air's business acquired by British Airways did not meet the required 250 million ECU threshold, Belgium subsequently exercised its rights under Article 22(3) of the Regulation to ask the Commission to examine the specific effects of the concentration on the Belgian market. In view of the highly competitive nature of the London-Brussels market, the Commission found - understandably - no appreciable effect on competition. In the Sabena- Swissair case, Sabena and the Belgian state would transfer 49.5 per cent of Sabena's shares to Swissair. The remaining 50.5 per cent would be held by the Belgian state and by Belgian institutional investors.

The combination of the parties' networks would lead to a monopoly with regard to air transport between Switzerland and Belgium. On the wider European level, on the other hand, the combined share of Swissair and Sabena was relatively small. At this time, the Commission was also examining the Lufthansa-SAS alliance under Article 85. Furthermore, Swissair, SAS and Austrian Airlines already participated in a European Quality Alliance (EQA). The Commission found that the existence of the three alliances, namely the alliance between Sabena and Swissair, the EQA and the Lufthansa-SAS co-

operation agreement would enable the participating airlines to establish an extensive integrated European network.

Together these airlines would account for approximately 35 per cent of passenger traffic within Europe and would carry in Europe more than twice as many passengers as the next-largest carrier. Therefore, the Commission had serious doubts as to the Sabena-Swissair alliance's compatibility with the common market. However, Swissair and Sabena undertook commitments and the Swiss and Belgian governments made declarations which removed the Commission's doubts. One of these commitments was an undertaking by the two airlines to allow other, competing carriers to participate in their FFPs. Thus Swissair and Sabena would offer to new entrants who did not already participate in an FFP the possibility to participate in their FFP. For this and for other reasons specified, such as making slots available, no increase of frequencies without prior notice and the conclusion of five year inter-airline agreements with new entrants, the Commission allowed the concentration. [130]

1.4.5 INFRASTRUCTURE POLICY

The reason why I have touched on the infrastructure in this section is that it is one of the most important categories of the airline transportation because with the growth of economy people have preferred travelling via airline not for their business and basic needs but also for their own pleasures. In addition to this, the fact that the people who didn't have enough budget for travelling via airline have preferred airline due to the decrease in ticket prices as there is a competition in the sector has increased the importance of the infrastructure.

The policy of this infrastructure has been analysed under two main headings. These are European Air Transport Infrastructure and Landing Slots.

Air transport dependent upon an extensive and sophisticated infrastructure. Slots – the precisely scheduled spaces of time for take-off or landing at an airport – are an extremely

[130] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.52

scarce good, especially at the large international hubs. Since the alliances channel their flights via these hubs, bottlenecks are frequent. They are not evenly spread throughout the day, but are more pronounced in the morning and evening as these times are particularly attractive for business travellers. In addition, people choose international flights according to the desired time of arrival in the country of destination, which is generally in the morning. This aggravates the shortage of capacity at certain times of day. Once an airline holds slots, it is generally reallocated the same rights in the next period. In the EU this grandfathering is subject to certain conditions. An airline is only reallocated its take-off and landing rights if it has used 80% of them in the previous period. If not, it must (in line with the use-or-lose rule) surrender the unused slots to a pool on which newcomers – potential competitors – can draw in accordance with certain criteria. New slots created by enlarging the infrastructure (extension of the airport) are also assigned to this pool. The use-or-lose rule is intended to prevent airlines from hoarding slots just to keep rivals out of an airport.

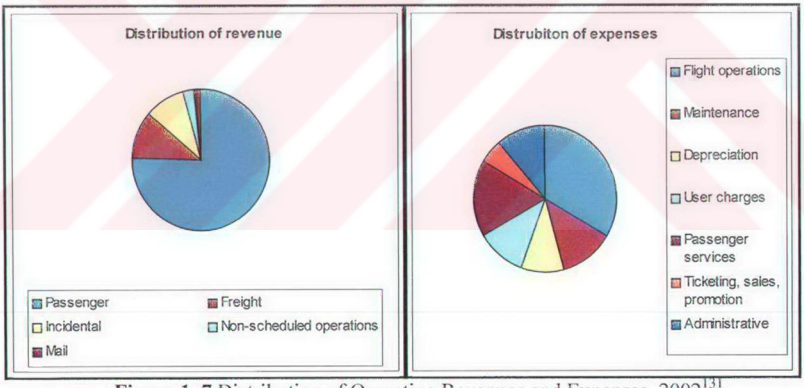

Figure 1. 7 Distribution of Operating Revenues and Expenses, 2002[131]

The location of airports and the availability of landing slots are fundamental determinants of which routes airlines choose to service. Furthermore, airport charges are an important component of total air carrier expenses, accounting for approximately 4 per cent of total

[131] Avaliable on site : http://www.icao.int

costs. Given the continued growth in air traffic, capacity constraints at a number of airports have become an issue over the past decade. A number of high growth international ports have built new airports to deal with the problem. Capacity expansion possibilities for a number of major ports are limited, however, creating a congestion problem. Some of these limitations include environmental, physical and other constraints. London's Heathrow airport is particularly notable for the capacity constraint problem. After decades of struggling to deal with congestion, the authorities have decided to build a new terminal and a short runway[132]. Nevertheless, the allocation of landing/takeoff slots at Heathrow, as at other airports, has direct competition policy implications. A number of airlines have made increasing use of secondary airports in order to circumvent the problem of congestion. In the absence of capacity expansion, the only way to address airport congestion is through a mechanism for slot allocation. If such a mechanism is not efficient and transparent, slot allocation could create an anticompetitive environment by favouring certain carriers. One mechanism used in international air transport is the IATA Airline Schedule Coordination Conference, but this is voluntary.[133]

1.4.5.1 European Air Transport Infrastructure

The rapid growth in air transportation and the increase in the number of the member countries of the EU and liberalisation have all displayed the insufficiency of the infrastructure. The increasing amount of traffic congestion and the delays caused by this traffic congestion have been causing congestion and delays in the well-known airports of Europe and all this to low performance. In general the airports belonging to the state sector have forced this situation to an unsolvable situation. But in order to find solutions to this problem some studies have been made under the name of European Civil Aviation Conference. This section has generally touched on the outlines mentioned above.

As liberalisation has proceeded within the EU, the scale of infrasturcture constraints has become substantial and the mechanism for dealing with them more cumbersome.

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[132] The Future of Air Transport, 16 December 2003, http://www.dft.gov.uk/
[133] World Trade Report 2005, Thematic Essays International Trade in Air Transport,p.8

Airport capacity in Europe is rapidly being reached at many major terminals. In 1988 special tasks force of the international air transport association identified problems at seven of Europe's airport as critical (i.e. Heathrow, Gatwick, Munich, Dusseldorf, Frankfurt, Linate and Fiumicio).[134]

The majority of major airports in Europe are heavily congested. AEA surveys show relatively high levels of departure delay in the late 1980s, with improvements generally in the early 1990s, up to 1994. After 1994, there has a gradual rise in departure delays as measured by the percentage of flights delayed by 15 minutes or more. The problems became particularly acute in 1999 but even after extensive efforts to improve the situation, 2000 was still the second worse year on record. The downturn in traffic from 2001 eased the situation.[135]

In addition, a report published by IATA in 1990 concluded that without furtherenhancements, capacity of 16 European airports would be sverly limited. Even if potential measures helped to increase capacity, other than new runways put into place 13 airports would still remain constrained by 2010.

Most European airports have traditionally been in one form of government ownership or another. The rationale is that market failure exists (e.g., market power and environmental externalities) and government regulation or direct involvement is thus required. Recent years have seen moves to privatize and commercialize many of Europe's airports. Juan (1995) suggests that the quality of service and investment commitments have significantly improved when the private sector has a major participation in management and ownership. He finds that airside charges have not varied much in terms of their average level but the charges mechanisms have become more complex. Second, airside charges are now the subject of price-cap economic regulation. Finally, there has been intense development of high revenue yielding non-aeronautical commercial airport revenue.

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[134] Button K., ,Haynes K., Stough R., 1998, "Flying Into The Future", Great Britain, p.81
[135] Button K., ,Haynes K., Stough R., 2002, " A study for the Association of European Airlines", Great Britain, p.19

About 25% of delays are weather related. The largest category of delays stem from airport and air traffic control difficulties. In 1996, air traffic flow management over Europe was centralized within Eurocontrol. While the move helped to alleviate delays in the worst affected sectors it introduced delays in sectors which had previously operated with minimal delay. The lack of a high quality network of airports and the mounting levels of congestion is costing money - British Airways estimates that evey minute one of its Boeing 747s is stacked, it costs them $ 1,500. Lost time is also important to passengers, and this has been valued on the average at about $21.50 perhour in Europe. The overall impact is put into context by Lufthansa which calculates that its aircraft are stacked for over 5,000 hours a year over Frankfurt and Munich alone. [136]

The European air traffic control system remains fragmented with European ATC centres, national systems, hardware suppliers, operating systems and programming languages under the European Civil Aviation Conference (ECAC) organizational umbrella. The EU are moving forward with a Single European Sky inititative of 1999 to improve the overall system (Commssion of The European Union, 1999). The aim being to increase capacity and efficiency as well as eliminate delays and significantly reduce costs by the end of 2004. The AEA has shown that en route charges and ground handling charges are the main infrastructure costs that have increased most on European routes since the implementation of the Third Package in January 1993.

[136] Button K., ,Haynes K., Stough R., 1998, "Flying Into The Future", Great Britain, p.82

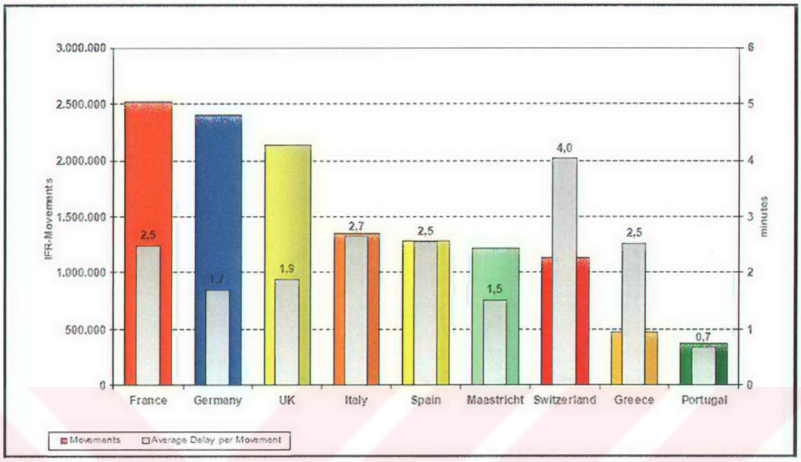

Figure 1.8 Comparison of Traffic and Average Delay per Movement in 2000[137]

On average, landing charges remained unchanged since 1993, with ground handling increasing by 6.2% and en route charges increasing by 6.4% between 1993 and 1995. These costs vary significantly across the ECAC states as demonstrated in Figure 1.1 that shows the en route costs to overfly European states for a standard aircraft type and distance of 850km. Aircraft and passenger handling delays increased in significance in the most recent period, reflecting internal airline procedures as well as airport ground facilities and terminal conditions.[138]

[137] Gillen D., 2001, "Recent Air Transport Developments in the EU", Canada, p.24
[138] Barrett, S.A. , 1987, "Flying High: Airline Prices and European Regulation", Avebury, p.66

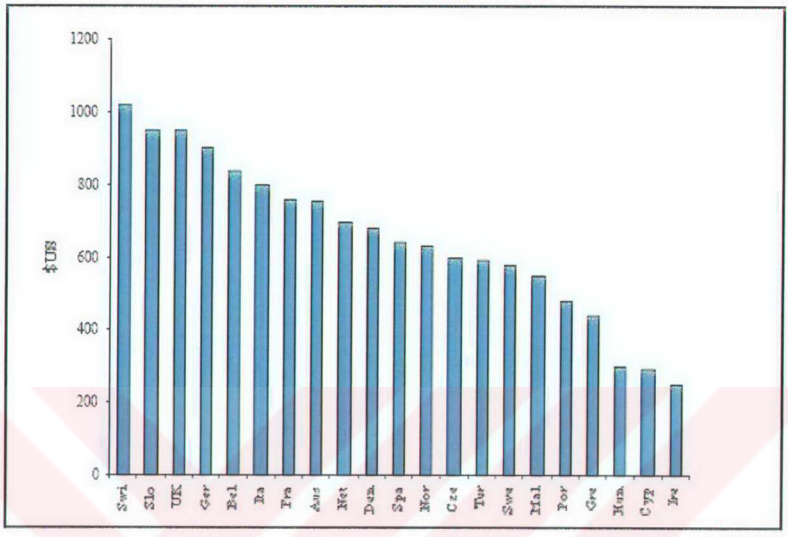

Figure 1. 9 Costs to Overfly Europe: Airbus A320 in 1997 for the Average AEA Airline's Flight of 850 Km.[139]

The congestion building up at the major European hubs has impacted on the nature of the networks that each now serves. In particular, London Heathrow and London Gatwick have seen a decline in the number of destinations that it serves while there has been a significant increase in destinations served from Frankfurt/Main, Paris Charles de Gaulle and Schiphol. This trend has also been exasibated by the policy of the UK government of fostering competition through a multi-airline strategy. Hence slots have been allocated to competitors to British Airways, the largest carrier, to provide competing services over existing.spokes.[140]

[139] Avaliable on site : http://www.aea.be
[140] Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.73

Table 1. 11 Number of Destinations Served from Major European Airports, 1990-2002[141]

Year	Schiphol	Charles de Gaulle	Frankfurt/Main	London Heathrow	London Gatwick
1990	201	210	254	170	227
1991	198	210	250	142	212
1992	204	217	262	149	210
1993	210	219	271	147	212
1994	227	229	285	150	213
1996	231	254	317	165	209
1997	240	251	292	178	200
1998	239	251	291	179	198
1999	234	241	289	175	191
2000	238	250	292	180	189
2001	215	246	296	170	186
2002	205	220	296	140	191

Note: Includes all unique destinations served by direct flights and 2 leg flights

1.4.5.2 Landing Slots

Slots have a vital role in airline transportation. Any poor usage of slots and air transportation firms' not being able to provide a proper allocation in making use of slots can affect the whole sector. Due to the fact that grandfathering right in the EU caused the sector to be in an anti-competitive structure I allocate this section under the heading "landing slots".

In general, landing and take- off slots are allocated according to a set of administrative principle, the underlying principle of traditional slot allocation are simple ; fundamental is the concept of grandfather rights, which lays down that an airline using a slot in one traffic season is entitled to its use in the same traffic season the following year. Secondary criteria include such things as size of aircraft, curfews at other airports and the need for a mix of services. Those two criteria contain anti-competitive features at all.

The EU Commision, in attempt to reduce the protection afforded incumbent carriers, initiated measures in 1993. Council regulation 95/93 set out to establish a process based on,

[141] Parkinson, J., Sentance, A. , 2002, "Airport capacity and the future of European hub airports", to the 6th Air Transport Research Society Conference, Seattle, p.98

"neutral, transparent and non-discriminatory rules" and "... to facilitate competition and to encourage entrance into the Union air market". To this end the State is obliged to play a role in the allocating process and the rules are binding.[142]

It effectively codified the existing system of administrative procedures with the aim of co-ordinating the actions of the parties involved and ensuring that the process is not excessively elongated. The desired features of a slot allocation process are:

- Sufficent flexibility to allow negotiations to take place and trade-offs to be made to reach an agreed allocation of slots.
- Participants have a strong incentive to reach agreement amongst them.

The reliance mainly on grandfather rights as the prime allocative criteria reflects the traditional IATA approach outlined below. The important new elemnt being the effort made to allow new entrants to take up under-used slots or new slots.

The system is often seen as being limited in that

- There is a lack of clarity over what is being allocated (i.e. the rights and obligations that a company the holding of slots);
- The administrated rules are inneficient in allocating scarce capacity to highest value use;
- The distinction drawn between new entrance and incombent is arbitary if the balance of policy objectives remains undefined;
- There is declining effectiveness of the new entrant measures with shrinking slot pools at highly constrained airports;

[142] Button K., ,Haynes K., Stough R., 1998, "Flying Into The Future", Great Britain, p.83

- There is unresolved conflict between the need for flexibility to reflect local conditions and the need for consistency to meet the objectives of the EU.[143]

The system seems to have had minimal impact. There are few avaliable slots at the most heavily congested airports. Even acquisition of a slot may be of little use to a carrier that requires a threshold number of slots to initiate or develop a viable service.

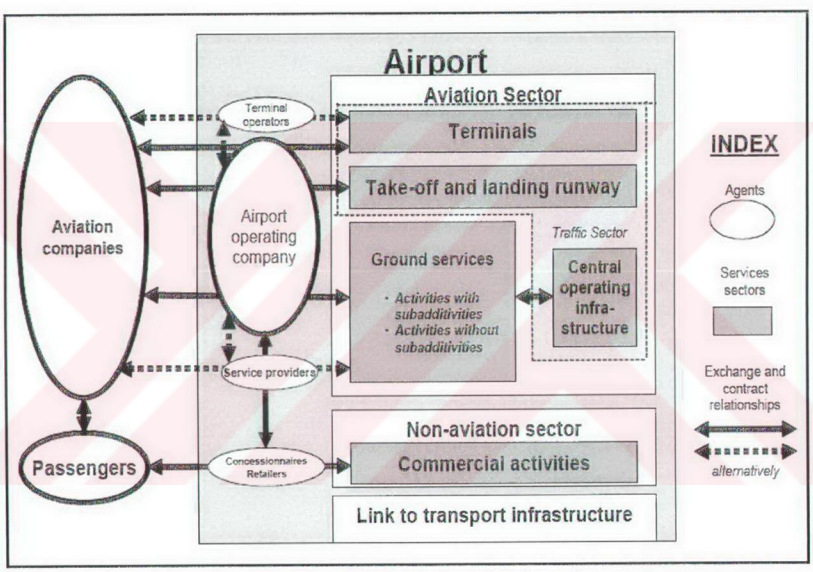

Figure 1.10 Airport Infrastructure[144]

[143] Castles C., 1997, "Development of Airport Slot Allocation In the European Community",Oxford University, p.43

[144] Deutsche Bank Research, Eric Heymann, "Consolidation in air transport", June 16 2004

CHAPTER II

ANALYSIS OF AIR TRANSPORTATION INDUSTRY

2.1 OVERVIEW

To fully understand the air transportation sector, first the market, the main competitors, main cost items, trends should be well understood. In this chapter, the main focus is on the sector analysis of air transportation business. It is aimed to derive coclusions for political and economical situation of the sector by obtaining a complete understanding of profitability, suppliers, costs, regulations, customers and possible developments in the market. To better understand the business, sector is divided into two main industries. First one is the aerospace industry, which is the aircraft manufacturing business. Although at the first glance, aerospace business seems as if it is not directly related to air transportation, in deed, as being the main cost item of transportation as well as one of the major industries driving political and economical scene of the world, effects of aircraft manufacturing on air transportation is considerable. In the second part, aviation industry is analyzed. Aviation industry is the transportation of cargo and human to domestic or international destinations.

Since manufacturing aircrafts requires high investments, complicated technology and high operating costs, number of firms in this industry is not very much, and generally concentrated in well-developed countries. However, since there are airline operators even in 3rd world countries, need for aircrafts is distributed all over the world. Briefly, it can be said that aerospace business has an oligopolistic structure with a very important sales potential, which makes this industry crucial and therefore this industry has special importance in the world's political arena. The issue in the following chapter is taken from global situation to European Union level. Then a profound analysis of the structure of the aerospace sector in the union is given. Finally, the main players in the world, EU and US, and the competition between two is analyzed.

Aviation industry can be said as equivalent to airline business. So in aviation industry chapter the main focus is on airlines. However, subsectors such as airports, air traffic management are also analyzed. After the situation in the world is given, the sector in European Union is analyzed in details. The effect of 11th September, which is one of the milestones in aviation history, is analyzed in a special chapter. Again the main competiton in the sector, the one between US and EU is analyzed seperately

2.2 AEROSPACE INDUSTRY

In this part, it is aimed to form a detailed understanding of aerospace industry, which forms fundemantals of air transportation business and policy. First a brief description of aircraft manufacturing business in the world is given. Then, a detailed analysis of aerospace industry in the European Union is given. The importance of the industry for the union, structural analysis of the industry from employment to competition is given here. Then, an analysis of transatlantic competition between US and EU, two major players in the global arena is made.

For decades the aerospace industry has lived on an island, protected from outside interference by its strategic status. Though national industries were fighting against each other, and companies were struggling for market share, the action was mostly confined to aerospace circles only a few top-level people were involved in a wider battle for the preservation of aerospace interests in the global economic world.[145]

The history of the aerospace industry has been a saga of continuing adjustment to changing national policy and economic conditions. Since 1960, fluctuating government demands and a variety of international events have teamed up to produce a roller-coaster like sales curve; up to peak, down to a valley. Over the years, the industry's operations have become increasingly complex, with each increment of complexity heightening the industry's problems in adapting to change. Today, the industry's unique characteristics make the adaptive process extraordinarily difficult. An understanding of the difficulties is best

[145] Interavia Business & Technology. "The Case for Aerospace", Vol. 54, Issue 635, 1999, p2.

promoted by an explanation of how the industry has been transformed in the past quarter of a century.[146]

While the market for civil aerospace products is clearly a world-wide market, military aerospace markets are constrained by differing national defense and procurement regulations. An illustration of recent market shares on the open international market can be provided by looking at the fighter aircraft contracts awarded between 1992 and 1996, where it is believed that in terms of value 15-20% went to European producers while nearly 80% went to US producers.[147]

Aerospace industry's role as principal developer and producer of defense, space, and other government required system in large measure dictates the industry size, structure, and product line. Because it operates under federal government procurement policies and practices, the industry is subject to controls markedly different from those of the commercial marketplace.

Today, things have radically changed. The strategic status of the aerospace industry is less evident to the man-in-the-street and even to most political decision-makers. The end of the Cold War, the collapse of the Communist Bloc, the popularization of air transport and satellite television, among other things, has contributed to that feeling. The privatization of virtually all aerospace companies worldwide and the drastic reduction of national defense budgets have accelerated the process. Now, the aerospace industry is exposed to the strong winds of the global economy.[148]

2.2.1 Aerospace Industry in the World

Aerospace industry is one of the most dynamic industries. In this part, to better understand the market conditions and competition, a brief explanation of global aerospace industry is given. Major producer countries and general market trends are mainly analyzed.

[146] Economist, "Sky is the Limit", Vol. 358, Issue 635, 2001.
[147] Bernstein Research, Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005.
[148] Interavia Business & Technology. "The Case for Aerospace", Vol. 54, Issue 635, 1999, p2.

The world aerospace industry is undergoing dramatic changes. Momentous recent events such as the merger of Boeing and McDonnell Douglas and the proposed merger of Lockheed Martin and Northrop Grumman have been driven by a recognition that the structure of the industry will only allow for a small number of world-class prime contractors to sustain competitiveness and commercial success through the integration of capabilities in a broad range of inter-related aerospace disciplines.

Other than that, no great technological leap awaits air travelers. Ten years hence, aircraft will still be metal tubes with wings and lots of seats. But the queues might get bigger with the arrival of the new double-deck super jumbo, the Airbus 380, capable of carrying 550 passengers in its first version but perhaps up to 800 later. Boeing does have a revolutionary blended wing body aircraft undergoing model-flying tests, but that is still a long way off. The concept of the "flying wing" was developed over 50 years ago, but up until now it has been used only for military aircraft such as the stealth bomber. In theory, its superior aerodynamics could cut fuel costs by up to one-third.[149]

The sales of such aircraft in large numbers depend on which way the industry goes. If today's regulated structure prevails, then huge aircraft will have the advantage. But if globalization and deregulation make it easier for airlines to fly direct to any destination without going through big international hubs, the giant Airbus may have less of a role.

In terms of large civil aircraft the Airbus share of the market grew steadily throughout the 1980's, as its aircraft range increased, but has remained essentially stable since 1989 and its share of the backlog stood at around 30% in 1996. Boeing's market share decreased somewhat in 1989 but grew again over the past few years to around 64% in 1996, whilst the McDonnell Douglas share of the civil aircraft market has been consistently decreasing throughout the 1980's and 90's to around 6% in 1996. Since the acquisition of McDonnell Douglas by Boeing, the European aerospace industry faces one dominant competitor with around 70% of the total order backlog.

[149] Economist. "Sky is the Limit", Vol. 358, Issue 635, 2001.

In regional aircraft (jet and turboprop), where the number of manufacturers is far greater but has been diminishing over the years, European companies held a majority share of the market for a long time (over 70% in 1994). More recently, however, rapidly increasing competition from Canadian, Brazilian and Asian producers combined with the collapse of Fokker and the sale of Dornier to Fairchild has resulted in a dramatic reduction in European market share whilst the Canadian industry now holds 40% of the regional jet market.[150]

In the civil aeroengine market the level of co-operation between US and European companies is greater than within Europe (e.g. Snecma and GE produce the CFM engine, whilst MTU of Germany participates in Pratt and Whitney engines) however intra-European co-operation is the norm for military aeroengines such as Eurojet. Because of these levels of EU-US co-operation it is difficult to compare market shares. However, the turnover of the two largest US aeroengine producers is roughly doubles that of the two major EU producers.[151]

The equipment sector is growing in importance and complexity (it represents an ever greater part of an aerospace system's value and 30% of the total employment in the aerospace sector[152]) but without successful European platforms its long term future would be compromised.

Despite enormous and painful efforts, the European aerospace industry suffers from the increasingly acute effects of the continued partitioning of its industrial structures. Taking a global approach to this industry, three factors are apparent from the current situation:

- The ever greater complexity of aerospace products has led to spiraling development costs and financial risks which have long outstripped the resources of even the largest European companies and have led to ever fewer new programmes being launched.

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[150] Communication from the Commission to the Council of Ministers, The European Parliament, The Economic and Social Commitee and The Commitee of The Regions, "The European Aerospace Industry Meeting the Global Challenge", 1997.
[151] Aviation Week & Space Technology, "The Right Settlement to Boeing-Airbus Squabble Will Enlarge Aerospace's World", 2005.
[152] Interavia, "Industry's New Approach to EU R&T Programme", 2002.

- No single Member State can come close to matching the large home market for defense equipment or the level of Research and Technological Development (RTD) support provided to the US industry. National markets can no longer provide a sufficiently strong base to support a full-range independent aerospace activity.

- Few individual firms in Europe have been able to balance risks and maximize benefits from developing activities in a broad range of aerospace businesses. Those that have are too small to enjoy the economies of scale of the US mega-companies which now dominate the business.

2.2.1.1 The Role of United States in Aircraft Marketing

As the market leader and the main producer in aircraft business, United States is the dominant player in the market. Therefore, it is analyzed in details separately in this part. In the following section countries other than US are analyzed together.

By far the largest competitor on the world aerospace market is the US industry with up to 58% of the world aerospace business (in terms of consolidated turnover) while the EU stands at 29%. The US is the market leader in both civil and military aerospace and has a highly developed administrative structure to support its position.[153]

The recent history of the US aerospace industry has been one of consolidation. From over 20 companies involved in the design or production of aerospace systems in 1980 the industry is now concentrated in the hands of three prime suppliers: Boeing, Lockheed Martin (which has recently announced plans to merge with Northrop Grumman) and Raytheon. Of these three companies, only the first produces large civil aircraft, and only the first two military aircraft. However, all are active across a wide range of aerospace

[153] Communication from the Commission to the Council of Ministers, The European Parliament, The Economic and Social Commitee and The Commitee of The Regions, "The European Aerospace Industry Meeting the Global Challenge", 1997.

activities in order to balance their risks, increase their ability to cope with market cycles and take full advantage of technology and skill transfers between the different sectors.[154]

This consolidation process has been facilitated by US government's stated policy to "maintain the superiority" of US aerospace and ensure that federal investments are focused and effective to strengthen the public-private partnership to promote continued US leadership in aerospace and aviation through a clearly set out national aerospace policy to support its industry.

The US industry obviously benefits greatly from being heavily supported by one single government while the European aerospace market remains fragmented because of national boundaries and separate research and defense policies. European undertakings such as Airbus, Eurocopter, Eurofighter or Arianespace must address themselves to a number of different governments with all too often differing priorities.[155]

The US Aerospace industry also benefits from the fact that US government procurement has mostly been directed at US companies and at ensuring the continued well-being and supremacy of the US industry. In addition the amount dedicated to military equipment procurement (including RTD) in the US is, at around $80 billion per annum, almost double the combined military equipment procurement and RTD budgets of EU countries. Within these figures, the amounts dedicated exclusively to military RTD represents annually at least $35 billion in the US versus $12 billion in Europe. Such significant differences in RTD spending risk marginalizing the European technology base.

Similarly, NASA's space budget ($12 billion in 1995) combined with the Department of Defense space budget ($10 billion in 1995) is about ten times that of Europe's space budgets. [156]

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[154] Bernstein Research, Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005.
[155] Dominique Moisi, "Dreaming of Europe", Foreign Policy, No. 115, 1999, p44-59.
[156] Aviation Week & Space Technology, "Aerospace R&D", 2003.

2.2.1.2 Other Manufacturer Countries in Aircraft Industry

Major aircraft manufacturer countries other than US can be listed as EU, Canada, Russia, China, Japan and Brazil. The capacity, structure and conditions of aerospace industry in these countries are briefly given in this part.

The Canadian aerospace industry (the bulk of which has been brought into one single company by Bombardier) is strongly supported by both Federal and provincial governments, and is extremely active in the regional aircraft market with both aircraft and engine production. Bombardier's share of the world regional aircraft market was up to 40% in 1996 and is likely to increase further with the demise of Fokker and the recent successful launch of the new Canadair 70 seat jet.[157]

The aerospace industry in the ex-USSR was long one of the largest producers in the world, it has however, been hard hit by the post-1989 events and is currently struggling and having to downscale massively. The CIS aerospace industry, apart from the space launcher segment, is thus not currently a major competitor on the world market but could in a relatively short period of time become an active player in both civil and military aerospace if appropriate financial and restructuring steps are taken. Indeed signs of a re-emergence are beginning to appear, in particular through competitive offers in export markets for combat aircraft and missiles.[158]

While the Japanese industry has designed and produced its own aircraft, spacecraft and launchers, it has developed a role as high tech subcontractor to foreign (essentially US) aerospace companies.

China's aircraft industry is still in its early stages; however the Chinese together with the Singapore aerospace industry entered an important agreement earlier this year to jointly produce a 100-seater aircraft with Airbus and Alenia. In the space field, China is pursuing a

[157] Communication from the Commission to the Council of Ministers, The European Parliament, The Economic and Social Commitee and The Commitee of The Regions, "The European Aerospace Industry Meeting the Global Challenge", 1997.
[158] Baidya Bikash Basu, Reforms in Russian Defence Industry: Problems and Prospects, 2000.

policy aimed at becoming one of the world's foremost launch providers and also has strong aspirations in the satellite field.[159]

Embraer of Brazil produces regional aircraft (with 10% of the world regional aircraft market) and is involved in a number of minor military aerospace co-operations. Indonesia is also a competitor in the regional aircraft market, and from producing small turboprops in co-operation with other companies, it will now launch its own N250 turboprop regional aircraft.

There are 6 civil aircraft producers, 6 combat aircraft companies, 3 helicopter manufacturers, 12 missile producers, at least 6 major producers of defense electronics and 5 satellite prime contractors in Europe. [160]

The period of sustained development which was enjoyed by the European aerospace industry in the 1970's and 80's was badly dented in the early 1990's, firstly because of the fall in defense-related activity following the end of the cold war and secondly because of the slump in civil orders which accompanied the massive losses experienced by the airline industry in the first four years of the decade in the aftermath of the Gulf War.[161]

These difficulties served to highlight the fact that the European aerospace industry still has to cope with structural adjustment problems. In recent years, the European aerospace industry has lost ground to that of the restructured and revitalized US industry and in certain niche markets it is facing increasing competition from third countries' manufacturers.

2.2.2 Aerospace Industry in European Union

European Aerospace Industry has a vital position in EU with its 420.000 high quality jobs, its 65 billions of EUROs of turnover and its 25 billions of trade surplus, and of the need for

[159] International Market Research Report, Aerospace Industry in China, 2005.
[160] Communication from the Commission to the Council of Ministers, The European Parliament, The Economic and Social Commitee and The Commitee of The Regions, "The European Aerospace Industry Meeting the Global Challenge", 1997.
[161] Sorin Lungu, European Defense Market Integration: The Aerospace Sector In 1987-1999, 2005.

Europe it to stay at the forefront of technology. In this part, it is aimed to develop a profound understanding of aerospace industry of EU. After giving general outline of the industry, the importance of the industry for EU is given. After discussing structure of the industry and consolidation trends, a detailed sector analysis is conducted. In this analysis, trends, turnover, profit margins, employment, R&D and supplier issues are focused. Competition in the market is studied separately in the following chapter since competition in this industry is severe and forms the basis of effects on EU policies. Following this chapter, the competition between EU and US is examined in Transatlantic Aerospace Industry part.

Aeronautics is a knowledge-intensive industry; research and innovation are vital ingredients to ensure the competitiveness of the European industry. To this aim the Aerospace Industry receives more than 700 Millions of EUR0s from the Community, which is 30 % of the whole public support to this sector. [162]

Historically, Member States have viewed aerospace as a national industry, primarily for reasons of national security. This means that policies affecting this industry have been pursued with a national focus. National research policies, procurement decisions and decisions on direct support have been measured solely in terms of their impact on the domestic industry. Even the regulatory framework in terms of product certification, export credits, company law and so forth is either non-existent or under-developed at a European level.

Most modern European states emerged as political units during the era of economic mercantilism, when wealth and power were each considered proper ultimate ends of national policy. Governments intervened openly and regularly in domestic economies. The introduction of laissez-faire economics challenged some aspects of this close state-economy relationship; nevertheless, state officials continued to perceive commerce as a target of national policy, since the governments remained responsible for providing infrastructures that facilitated trade. Commerce-related industries were considered

[162] AECMA Annual Convention 2000 Report, Aerospace in the European Transport Policy, 2000.

strategic, and selected firms were identified as national champions; they received special governmental shelters and supports and were allowed to monopolize production and sales. When commercial aviation emerged as a viable means of transportation, virtually all states established at least one national champion airline. Surprisingly, aircraft manufacturers initially received less conspicuous public support and remained in the private sector.[163]

If BAe or any other Airbus partner secures government aid, the dispute will focus on the 1992 agreement. If the aerospace industry were again to be involved in the wide array of US/EU trade issues, how its interests would be rated by the European negotiators is still a question. Moreover, it is also suspicious that the preservation of the commercial aircraft agreement would be their top priority, or it would be far down the list, behind the interests of European farmers or consumer groups.[164]

Another set of questions concerning relations between the restructured industry and European governments will have to be resolved in the same timeframe. It is a fact that no major development in the aerospace industry has been achieved without a certain level of support from the governments. This is obvious in the military sector, but it is also true in the commercial field on both sides of the Atlantic. Directly or indirectly, government money has contributed, among other things, to the birth of the jet era, the development of the first jumbo, the rebirth of European commercial aircraft manufacturing, and the development of space launchers and commercial satellites.[165]

European Union regulations, such as those pertaining to aircraft that meet Stage 3 noise restrictions through the use of hush-kit equipment, also unfairly target U.S. products. Europe often uses its regulatory bureaucracy to keep U.S. aircraft out, even after they've achieved FAA approval.

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[163] Economist, "The Joys of Oligopoly", Vol.358, Issue 8212,p13.
[164] Interavia Business & Technology. "The Case for Aerospace", Vol. 54, Issue 635, 1999, p2.
[165] P. Condom, "The Other Half of The Model", Interavia Business & Technology, Vol.54, Issue 528, 1999.

When aerospace industries were essentially national, relations with national governments were relatively straightforward national taxpayers' money was supporting national companies. Once European industry has completed its restructuring, things will be very different. When supporting the new multinational groups, governments will no longer have the guarantee that their support will go to national units. This is not entirely new government support for multi-national European programmes is not always strictly linked to national participation. However, the general role, written or not, remains the famous fair return rule. In the future that has to change. An encouraging step has been made with the 5th European Framework programme, but it will not be enough.[166]

One of the principal arguments in favor of European consolidation is the massive restructuring of US industry over the last decade. But, one should not forget the other half of the US model. US industry is supported by State Administrations that implement the policy of one single government. The future European aerospace groups without a European NASA, DoD or FAA seems to be desperate.

Some progress has been achieved in creating the European environment the industry needs. The slow recognition of the JAA and the organisation of EU support to R&D aerospace programmes are a step in the right direction, but there is still a long way to go. Since the fall of the Berlin wall, all European governments have reduced their investments in the aerospace industry, and virtually all of them see restructuring as a way to cut budgets further. After their investments, it may not seem unfair that the governments benefit from the improved efficiency of a restructured European industry. However, officially the objective of the restructuring remains to improve the competitiveness of Europe and increase its share of world markets. That will not be achieved by reducing budgets, but by devoting the new margins created by efficiency improvements to new, ambitious aerospace goals. [167]

[166] S. Trimble, "Foreign Corruption Charged", Business & Commercial Aviation, Vol.89, Issue 3, 2001.
[167] P. Condom, "The Other Half of The Model", Interavia Business & Technology, Vol.54, Issue 528, 1999.

In preparation for the next European election, many political leaders are trying to convince voters of the benefits of enhanced European integration. It would appear a disservice to allow the restructuring of the aerospace industry to be associated only with cost savings and downsizing; by creating the right environment, and maintaining budgets at the right level, it could be an historical opportunity for future development.

It is far from certain that the aerospace industry weighs more in the mind of European politicians than the farming or food industries. In fact, the aerospace industry has several handicaps. First, it represents a major economic activity in only a limited number of European countries. Also, at a time when budgets are tight and unemployment a major worry, the aerospace industry appears capital-intensive but not labour-intensive.[168]

Of course, the aerospace industry has also some very strong arguments to support its case. Not only can it prove that past investments of government money in commercial programmes 'have produced more than fair returns, but it can point to Airbus and Arianespace as emblematic symbols of the success and power of Europe. But experience has shown that it is not enough to have a good case, it must be put forward in time to avoid unpleasant developments.

2.2.2.1 Importance of Aerospace Industry for European Union

The importance of Aerospace Industry for the Union is all the more critical given the huge potential of the European aerospace industry which employs over 420 000 people directly and many times that number indirectly; and creates high quality jobs as well as critical and pervasive technologies that fuel the development of many other industries. The aerospace industry sustains the capability for an independent defense and it involves some 700 firms (many of them SMEs) with an estimated 70 000 suppliers operating in all Member States in the Union.[169]

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[168] Interavia Business & Technology. "The Case for Aerospace", Vol. 54, Issue 635, 1999, p2.
[169] Communication from the Commission to the Council of Ministers, The European Parliament, The Economic and Social Commitee and The Commitee of The Regions, "The European Aerospace Industry Meeting the Global Challenge", 1997.

European aerospace industry is a diverse industry which produces complete systems covering all aerospace applications: large civil jet aircraft, regional aircraft, military aircraft, helicopters, missiles, satellites and launchers, as well as engines and equipment. Figure 2.1 illustrates the estimated distribution of the turnover. The significance of a strong Aerospace industry for Europe as a whole is manifest as being one of the top 15 industrial sectors by employment.

Reasons of the importance of Aerospace Industry for Europe can be summarized as follows:

Trade and competition: In 1996 the value of aerospace exports was put at over 15 billion ECUs which represent almost 3% of total EU exports. Although EU aerospace exports and imports have remained broadly in balance over the last 10 years, Europe has consistently been a major net importer of aerospace products from the United States. It should also be remembered that in a market such as large civil aircraft (estimated to be worth around 1 000 billion ECU over the next 20 years) it is only the existence of the European aerospace industry's products that prevents the current dominance of Boeing from becoming an absolute monopoly.[170]

[170] Communication from the Commission to the Council of Ministers, The European Parliament, The Economic and Social Commitee and The Commitee of The Regions, "The European Aerospace Industry Meeting the Global Challenge", 1997.

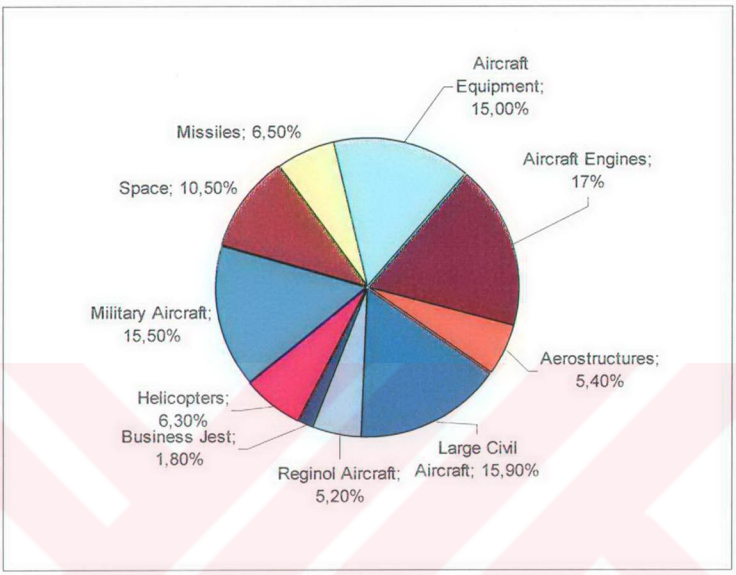

Figure 2. 1 Estimated EU Aerospace Turnover Breakdown by Final System Level[171]

Independent defense capability: The aerospace industry accounts for approximately 50% of the defense-related industries (including electronics for aerospace). Without the ability to develop and produce efficiently the necessary aerospace products, autonomy in the formulation of an independent defense policy would be significantly diminished. There are thus important foreign and security policy considerations in the maintenance of a healthy and competitive aerospace industry. [172]

Technology transfer to other sectors: With around 15% of its turnover spent on Research and Technological Development, the aerospace sector is among the most research intensive sectors of the economy. It is not only strategic in itself but is also a driver for the

[171] Available on site: http://www.aecma.org
[172] M. Flourney and J. Smith, "European Defense Integration", Center for Strategic and International Studies, 2005.

development of a wide variety of technologies which are critical for innovation in other industries. It stimulates technological development in high-tech supplier industries and plays a leading role in technological innovations which diffuse to other sectors. A weakening of the technological dynamism of the aerospace sector would therefore undermine European innovation and competitiveness much beyond the sector itself.

Space Applications: Satellites, it is now recognised, will be fundamental in bringing the opportunities of the global information society to many parts of the world, complementing and replacing terrestrial infrastructure. Global satellite navigation is also becoming a cornerstone of civil transport systems and other applications (in the same way as it has already become for the majority of defense systems) and the EU is currently reliant on US and Russian military-based systems.[173]

The Air Transport: The public demand for air transport is growing at around 5% per year. The aerospace industry has to meet this demand not only with new aircraft but also with associated air traffic control and avionics systems which will enhance the efficiency and safety of operations,

The Environment: The European aerospace industry has made considerable progress in developing quieter and cleaner aircraft. However the continuing rapid growth of air transport and the increasing importance of environmental aspects for competitiveness, means that these efforts will have to be enhanced in future so as to meet both local and global concerns. Local as in the case of noise annoyance around airports, or regulation on access to individual airports based on environmental targets, global as in the case of the debate on climate change and greenhouse gases, such as CO2 and NOx. Measures, at a global or EC level, need to be taken to control the environmental impact of air transport in terms of noise and gaseous emissions, including support for further substantial investment in environmentally related RTD by the European aerospace industry.[174]

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[173] ESA's Annual Analysis Report, The European Space Sector in a Global Context, 2003

[174] K. Button, "Lessons from the European Transport Experience", Annals of the American Academy of Political and Social Science, Vol. 553, 1997, p157-167.

2.2.2.2 Structural Analysis of European Aerospace Industry

Before going into details of the market, general structure of value chain should be well understood. In this part, a general description of the sizes of the firms and a brief explanation of the supply chain of aerospace industry is aimed to be given.

The European Aerospace Industry (EAI) is characterised by a small number of very large firms, a large number of medium sized companies, and a very large number of small enterprises. (Figure 2.2) There are only seven companies with more than 10,000 employees, i.e. just 1% in number. The number of smaller companies with less than 1,000 employees amounts to 669. 526 companies or almost 70% of all those belonging to the EAI in 2002 comply with the employment criteria contained in the European Commission definition of SMEs (Small and Medium-sized Enterprises).

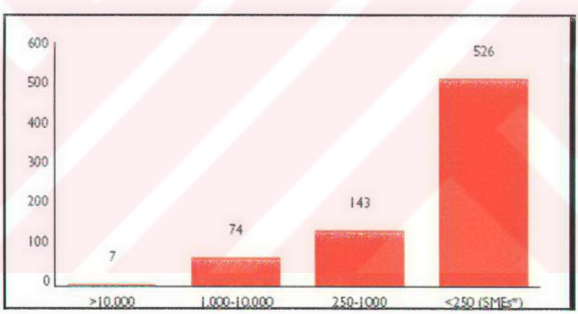

Figure 2. 2 Size of Companies in Number of Employees

In addition to the companies directly pertaining to the EAI, there are an estimated 80,000 European suppliers of goods and services to the EAI, of which about 20,000 are estimated to be SMEs (Figure 2.3). Thus, aerospace provides impetus to a large number of SMEs within the EU, not only among the classical aerospace manufacturers represented by the EAI, but also throughout the supply chain.

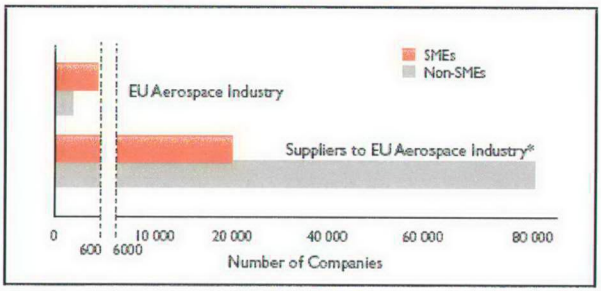

Figure 2. 3 The EU Aerospace Industry SMEs and Suppliers[175]

The structure of the European aerospace industry has undergone profound changes in the last decade. A process of mergers and rationalisation has taken place to enable the EAI primes to cope with US competition and reduced customer budgets. This has in particular led to the formation of global players such as BAE SYSTEMS in 1999 and EADS in 2000, which generate aerospace related turnover in the region of €20 billion to €30 billion. In global comparison, they rank number 2 (EADS) and number 4 (BAe Systems) after US based Boeing and Lockheed Martin respectively.[176] Today European companies are approaching a status equivalent to the US groupings, giving European industry the ability to face the challenges present in all parts of the global aerospace market. (Figure 2.4)

The global aerospace industry comprises a complex network of companies, joint ventures, international consortia and partnership agreements. The major European aerospace and defense cross holdings are shown in Figure 2.5. After decades of operation as a joint venture, in 2001 Airbus became a genuine transnational aerospace company. It is one of only two manufacturers in the market of large commercial aircraft. In other areas, such as helicopters and missiles, European firms already exist and similar transnational links are growing between European, US and Asian companies at all levels of the supply chain. Linkages with Australia and South Africa will be augmented with further commercial and

[175] AECMA Report, The European Aerospace Industry, 2002
[176] Bernstein Research, Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005.

technological relationships in Asia and the Far East. The EAI will continue to play its part in globalization.[177]

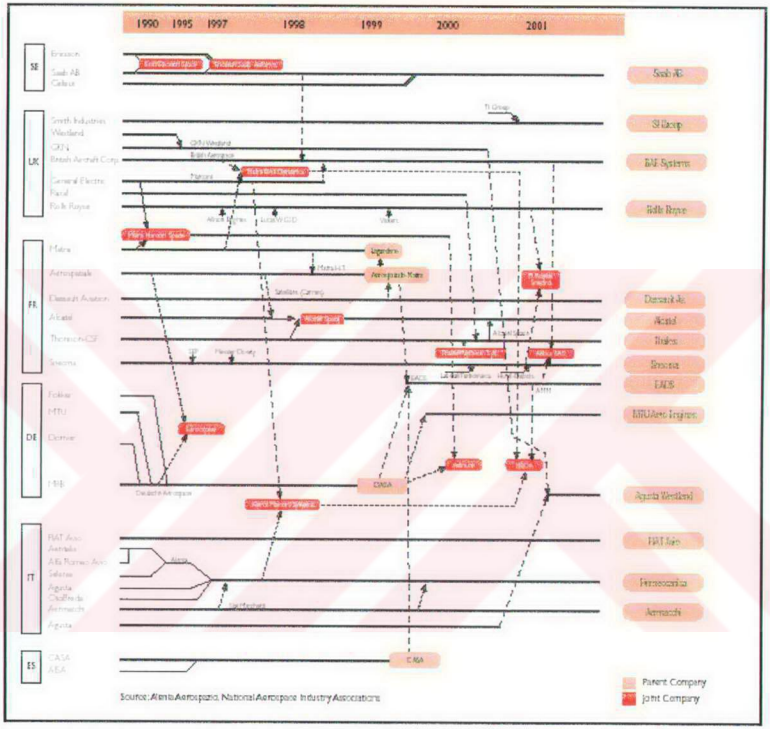

Figure 2. 4 Consolidation Process in the European Aerospace Industry[178]

[177] M. Taverna, "European Clock Reset on Mergers, Takeovers", Aviation Week & Space Technology, Vol. 156, Issue 24, 2002.
[178] AECMA Report, The European Aerospace Industry, 2002

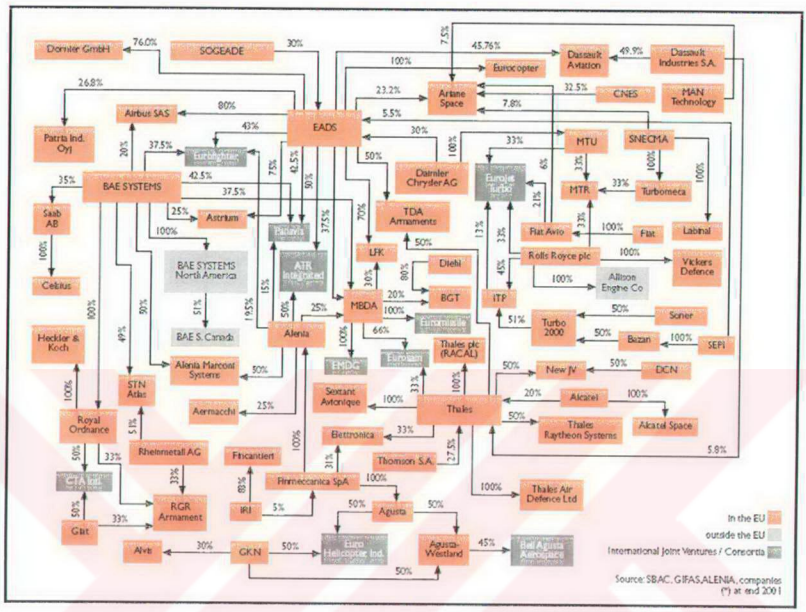

Figure 2. 5 Major European Aerospace and Defence Industry Crossholdings[179]

2.2.2.3 Sector Analysis of European Aerospace Industry

2.2.2.3.1 Trend Analysis:

Following five years of robust growth, the EAI shrunk in 2002 by €6 billion or 9%. In 1991 the industry already faced a significant fall in turnover and after five years of contraction returned to growth in 1996 and a peak performance in 2001. However, the EAI is currently above its 2000 level of turnover and achieved the second best year in its history. To cope with the reduction in turnover and orders, the industry had to adapt its workforce, leading to a 6% decrease in the overall workforce. Aside from this the industry also responded to the

[179] AECMA Report, The European Aerospace Industry, 2002

new market realities by reducing working hours and overtime in a bid to avoid further redundancies. Since 1995 the growth of sales volumes and employment has been 54% and 5% respectively, productivity therefore increased considerably over the last seven years and the restructuring that the industry is currently undertaking will allow it to return to stronger growth once normal market conditions return. The turnover per employee in constant terms was €115,000 per employee in 1991 and now stands at €177,000 per employee.

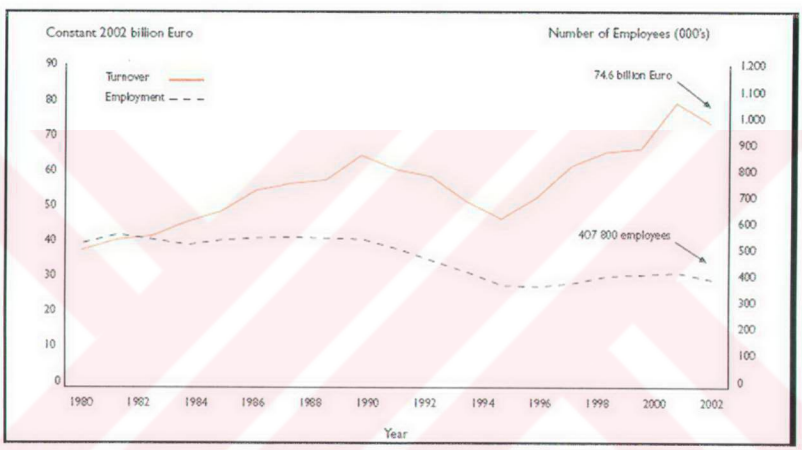

Figure 2. 6 EU Aerospace Industry Turnover and Employment

Since 1989 the EAI has been diverging away from public customers to other customers. This trend became more apparent in 1996 when public customers made up 28% down from 36% in 1995. The commercial domestic and export customers have been the reason behind this rapid change. In 2002, stemming from a general stability in the government sector and the reduction in the civil market, the sector has returned to the level of 1999 or 27% of EAI turnover going to governments and 73% going to other customers[180]

In constant prices, the civil revenues have grown 64,4% between 1980 and 2004, while the military growth throughout the period remained more modest at 35,6%. This prominence of

[180] AECMA Report, The European Aerospace Industry, 2002.

the civil sector culminated in 2001 with a civil military split of 70/30. In 2002 the pause of the civil market drove its share back to levels last seen in 1999, to 68.4%.However, unlike 2002 and 2003, where it was supported by significant exports, 2004 has been boosted by domestic military demand, such as the purchase of the second production run of the Eurofighter.Over the last two years the military side of the business has shown some resilience but the maintenance of its share will depend on future demand from national governments and exports.

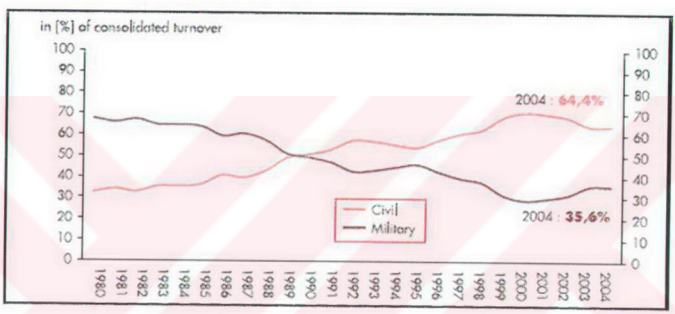

Figure 2. 7 EU Aerospace Industry Turnover by Civil/Military[181]

2.2.2.3.2 Turnover Analysis

Total consolidated turnover of the EAI was €74.6 billion. Between 2001 and 2002 the EAI activity has shrunk by 9% in constant terms, which amounts to €7 billion. The result of this contraction has meant that the long term growth rate of the industry between 1980 and 2001 currently stands at 4.2%. The overall decrease in turnover can be attributed primarily to a fall in exports, particularly civil exports. In fact, the figures are converse to 2001. At that time, the civil home market lost 18% whereas in 2002 it has rebounded and grown 10%. The domestic civil market is thus the only positive category, adding in 2002 a 2% contribution to total growth (€1.6 billion). This is in stark contrast to the other three EAI categories which all show negative trends compared to 2001. The category that has had the

[181] Aerospace and Defence Industries Association of Europe Report, Facts and Figures, 2004.

most impact on turnover was Civil Exports which dropped by 20% or €8 billion. Most of this deviation can be attributed to a reduction in sales not only to the US market but worldwide. Like the civil sector military exports also declined by 8%. This was not, however, compensated by an increase in the EU military turnover, where domestic sales fell 2%. Despite the drop in the Domestic Military market in 2002 it is expected in coming years to play a more significant role as major government procurement programmes, such as the airbus military A400M transport aircraft materialise. Willingness has also been shown, in the UK and France, to increase in future their defense budget. In 2002 the Domestic Military market was worth €16 billion. In the military business, both domestic and export sales fell by 2% and 8% respectively in 2002 or combined fell by nearly €1 billion.[182]

The total consolidated turnover of the EAI was €77 billion as seen in Figure 2.8. The industry enjoyed a positive growth level in 2004, at 4,7% in constant terms according to the previous year. This signals an industry that is on course for a recovery following a number of years of difficult operating conditions due to the Iraq war, SARS and the worldwide economic downturn. The increase in turnover can be attributed to civil exports, at 8,4% and the military domestic at 9,7%. The main contributor to total growth at 3,4% was civil exports, helped by the strong performance of Airbus outside of the EU. A number of EU countries started taking delivery of Eurofighters, which helped push up the military domestic figure.[183]

The aerospace industry is generally broken down into three industry sectors "systems & frames", "engines" and "equipment" and in parallel into three product segments "aircraft" (including helicopters), "missiles" and "space". Turnover information is further detailed for these sectors and segments. Figure 2.9 illustrates the individual contributions of the industry sector to the total consolidated turnover posted in 2002. The term contribution takes into account that revenues from most of the products sold include the value of subsystems supplied by other companies in the supply chain. These suppliers may pertain

[182] AECMA Report, The European Aerospace Industry, 2002.
[183] Aerospace and Defence Industries Association of Europe Report, Facts and Figures, 2004.

to the same or another of the industry sectors. To assess the contribution of a given sector, supplies from companies belonging to other sectors have been eliminated from the turnover of this sector, whereas supplies to either of the other sectors have been taken into account.

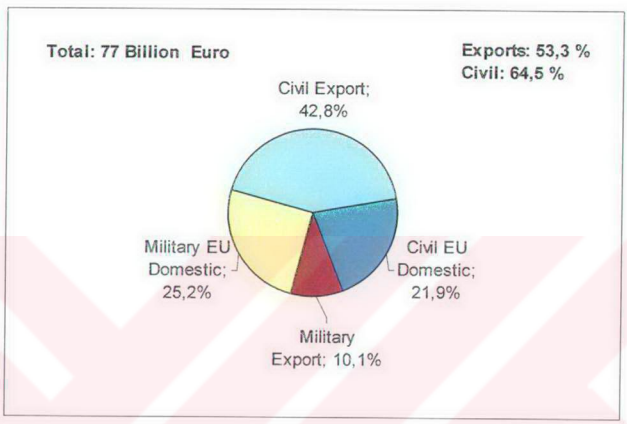

Figure 2. 8 Breakdown of 2004 Turnover

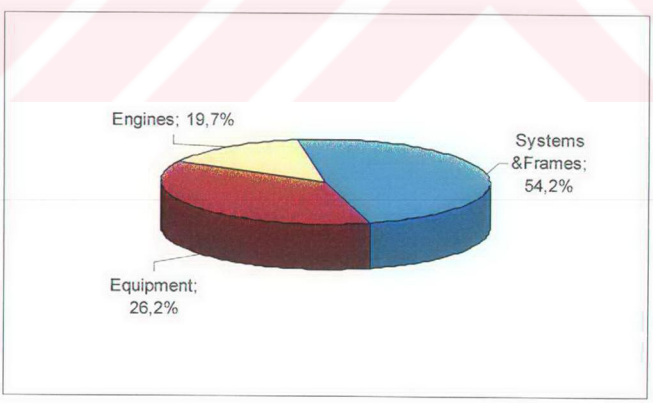

Figure 2. 9 Industry Sector Contribution to EAI Turnover

The public image of the industry is mainly determined by their final products. These include large commercial aircraft, combat aircraft, helicopters, regional aircraft, business jets, as well as missiles, satellites and space launchers. However, these final products account for only around one half of the overall consolidated turnover, with aircraft contributing 46% or 34.2 €billion (Figure 2.10). Within the aircraft final product range, large civil aircraft are the single largest contributor with a reported turnover of €18.6 billion. Accounting for sales of €16.1 billion, aircraft maintenance corresponds to 22% of the turnover, and become an important pillar of the business. 24% of the industry's consolidated turnover is made up from sales of engines, equipment and aerostructures. These comprise primarily spares but also direct order equipment and supplies to aerospace companies outside the EU.[184]

Within the Product Sectors and Industry Segments (Figure 2.11) there is a wide variation in the respective customer bases. In the aircraft segment, 53% of the unconsolidated turnover is with end customers. The balance of the aircraft turnover is with aerospace companies, 73% of which is EU internal trade. In the missiles segment, unconsolidated turnover is made up of 63% to end customers, of the remainder 91% is allocated to EU suppliers. The space segment features the highest ratio of unconsolidated to consolidated turnover, which means that the involvement of the supply chain is strongest in this segment. Each of the three industry sectors shows a specific tradepattern. The system & frames industry sector (representing end products like aircraft, helicopters, satellites, launchers, missiles and their frames) traditionally reflects the results of the aircraft product segment, as aircraft contribute more than 90% to the turnover. In the engine sector, sales to Non-EU Aerospace companies outside the EU are 54% compared to Intra EU-Aerospace sales which are 44%, demonstrating the strong competitiveness of engine sector outside the EAI community. In the equipment sector, 61% of sales are accrued to aerospace companies. More than 70% of this turnover is with European companies.[185]

[184] N. Cock, "Europe Fights to Make up for Lost Time", Interavia Business&Technology, Vol.55, Issue 638.
[185] Datamonitor, Global Aerospace and Defense, 2005.

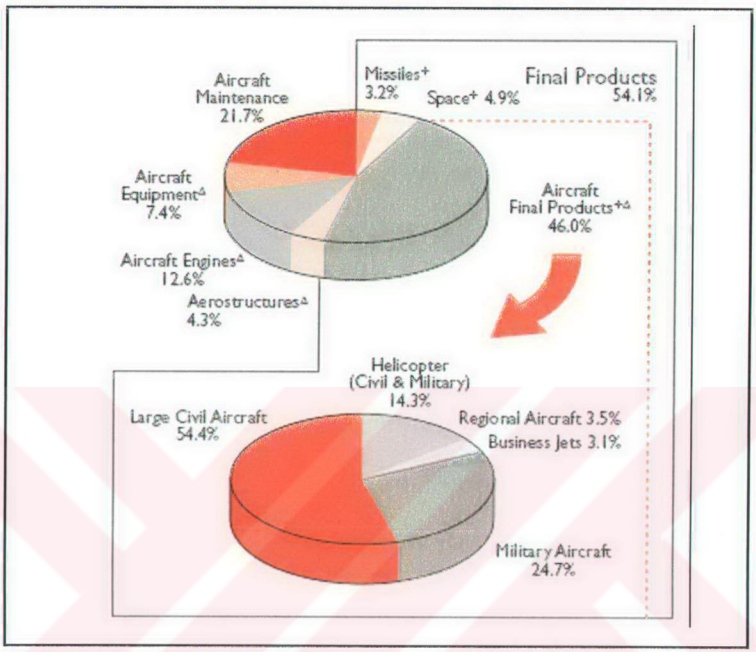

Figure 2. 10 Breakdown of Turnover by Product Segment[186]

The continuing overall low dependence of the industry on contracts acquired from EU Governments is presented in Figure 2.12. Depending on the product segment and industry sector the extent varies. Regarding product segment, aircraft are the least dependent upon EU governments, with 68% of the sales stemming from other customers. Due to the lack of a civil market, missiles stand out in particular as relying predominantly on EU governments, which represents some 85% of missile turnover. Space activities have always been largely government oriented or sponsored, but the civil market has seen in recent years an increased share for the EU space segment.

[186] AECMA Report, The European Aerospace Industry, 2002.

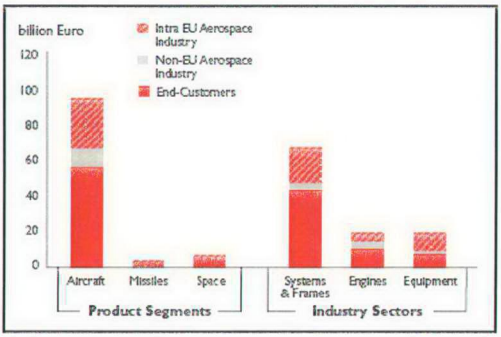

Figure 2. 11 Breakdown of Turnover by Customer

The continuing overall low dependence of the industry on contracts acquired from EU Governments is presented in 2.12. Depending on the product segment and industry sector the extent varies. Regarding product segment, aircraft are the least dependent upon EU governments, with 68% of the sales stemming from other customers. Due to the lack of a civil market, missiles stand out in particular as relying predominantly on EU governments, which represents some 85% of missile turnover. Space activities have always been largely government oriented or sponsored, but the civil market has seen in recent years an increased share for the EU space segment. The EU Governments market share accounts for 62% of the segment turnover. However, this share is likely to increase as the difficulties in the civil space market in the past year begin to take their toll. From an industry sector point of view, the system & frames sector dominates the total industry results with 28% of the turnover made with EU governments. In the engine sector, the EU Governments share is 18%, whereas the equipment sector depends for about one quarter of its business on the public customer.

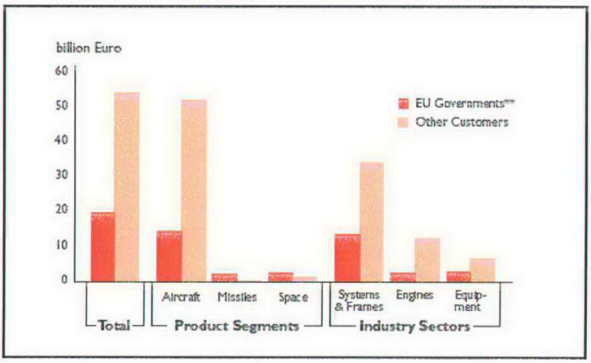

Figure 2. 12 Breakdown of Turnover by EU Governments / Other Customers

2.2.2.3.3 Profit Margin

After achieving an operating profit margin of more than 6% in 2001, the EAI shows a slightly reduced figure of 4.6% for the year 2002 (Figure 2.13). The main reasons for this are firstly a lower sales volume for the industry overall, and secondly the status of certain government funded programmes, implying one-off provisions in particular sectors. However, in 2004 operating profit has again increased, reaching 6, 3% or a 1% increase on 2003. The increased margin is despite the toll that the dollar/euro exchange has on the bottom line and can be attributed to efforts by the industry to reduce costs and improve efficiency along the supply chain.

Since 1980, the turnover per employee has been constantly increasing and shows an overall long-term growth of 4.2% per year. During the 1991-2002 period, this is equivalent to a growth in specific output of 54%. Despite the unfavourable situation in 2002, the industry has taken measures to reduce costs and improve productivity which will enable it to manage the downturn in the cycle and facilitate profitable growth when the upturn occurs.[187]

[187] Interavia Business & Technology, "Business Briefing",Vol.54, Issue 633, 2002.

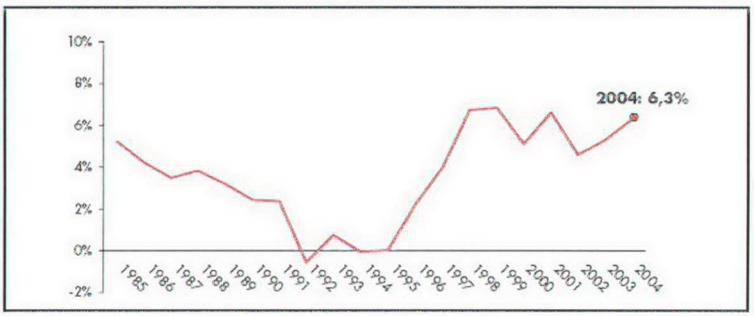

Figure 2. 13 Operating Profit Magrin

2.2.2.3.4 Employment Capability

Total direct employment in the EAI at the end of 2002 was about 407,800 employees, meaning that the EAI has lost 27,700 jobs in the last year in order to cope with the lower level of activity (Figure 2.6). This translates into a decrease in the industry workforce of 6%. The industry is not only represented by the above number of employees. Within the supply chain outside the EAI, the estimated number of jobs is at least twice the above number. The overall employment generated by the aerospace industry in the EU is therefore in excess of 1.2 million people.[188]

There are some 70,000 employees working in EAI subsidiaries located in the US and other countries outside the EU. This additional employment is also not represented here. The EAI provides a large number of highly skilled jobs with 29% of all employees having a university degree or equivalent. Another 33% received an education at institutions below university level. Even in the case of manual workers, who account for 38% of all employees, most have been highly trained either within the EAI or externally to cope with the sophisticated nature of aerospace technology. With a share of 57% of all employees, the

[188] Aerospace and Defence Industries Association of Europe Report, Facts and Figures, 2004.

production area is the biggest component. However, the fact that 19% of EAI staff work in the field of R&D once more demonstrates the importance of R&D to the industry.[189]

If employment is analyzed with respect to product segments, 88% of all direct aerospace employees in the EU were employed in aircraft related activities at the end of 2002 (Figure 2.14) i.e. some 358,900 employees (21,400 less than in 2001). The workforce in space programmes was 8%, while missile programmes employed 4%. 57% of the EAI's workforce is employed by (non-engine) prime contractors or overall system level companies (segment systems & frames). Direct employment in the supply chain is shared between the engine sector (45%) and the equipment sector (55%).

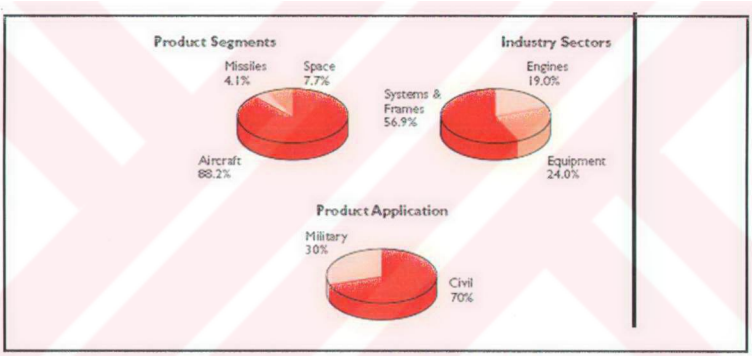

Figure 2. 14 Breakdown of Employment by Product Segment, Industry Sectors and Application[190]

The industry features activities in all 15 EU Member States of the European Union, with no exceptions. The size of the aerospace industries in the individual countries roughly correlates with the size of their overall economies and population. The largest aerospace industries are located in the EU Member States with the largest population and highest GDP. As France, Germany, Italy and the United Kingdom comprise more than three

[189] D. Barrie and M. Taverna, "Industrial Fallout", Aviation Week and Space Technology, Vol.158, Issue 18, 2003.
[190] AECMA Report, The European Aerospace Industry, 2002.

quarters of the EU population and GDP, their aerospace industries account for more than 80% of the EU aerospace industry's turnover and employment.[191]

In terms of direct employment, the EAI provides for about 0.2% of all jobs in the EU. If employment generated in the supply chain outside the EAI is included, the figure would amount to about 0.7%.

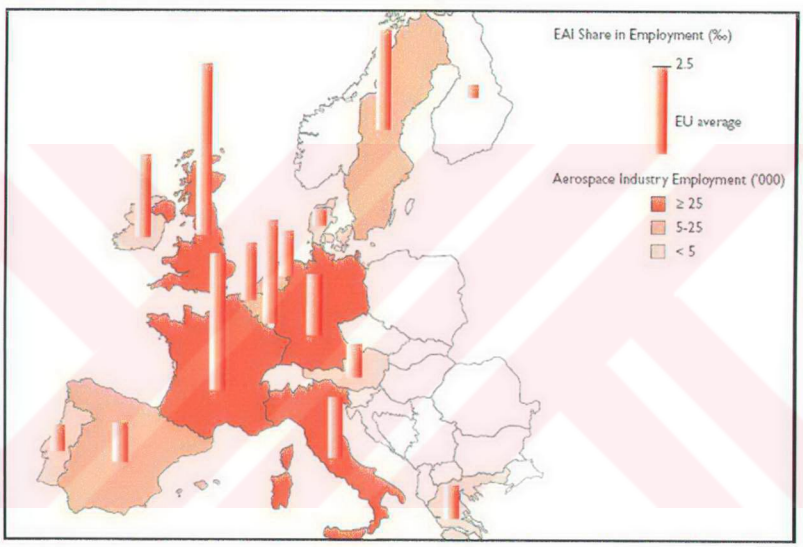

Figure 2. 15 Aerospace Industry Contribution to EU Employment[192]

The relative importance of the aerospace industry compared to the overall EU employment varies within the EU. This variation is not necessarily correlated to the absolute size of the population, the GDP and the aerospace industry of a country. For example, the smallest country of the EU, Luxembourg has an above average share. The group of countries with an above-average-share in overall employment comprises France and the United Kingdom

[191] J. Fontanel and R. Smith, "A European Defence Union", Economic Policy, Vol.6, No.13, p393-424.
[192] AECMA Report, The European Aerospace Industry, 2002.

but also Luxembourg and Sweden (Figure 2.14). On the other hand Germany which has the biggest GDP, the relative importance of aerospace employment is under the EU average.

2.2.2.3.5 R&D Capability Analysis

A high level of R&D expenditure is not only characteristic for large aerospace companies but also for the SME's in the EU aerospace industry. SMEs invested 13 % of their turnover in R&D in 2002, which is in line with the 10-13% range of R&D spending noted over the last eight years. In 2002 SMEs spent €203 million on R&D. As a percentage of consolidated turnovers, R&D expenditure for these companies has been 10% over the last eight years on average, only slightly lower than the EAI average of 12%. 59% of R&D investment was provided by the SMEs themselves. The focus hereby is clearly on the civil side, regardless of the financing source. In total, 66% of the R&D expenditure was dedicated to civil programmes (Figure 2.16). In general SMEs indicate that, in view of their financial framework, they must aim for near term market application of their technology development. Moreover, it should be recalled that R&D at SMEs needs further public attention, since their R&D expenditure per employee rate is still behind the overall industry average.[193]

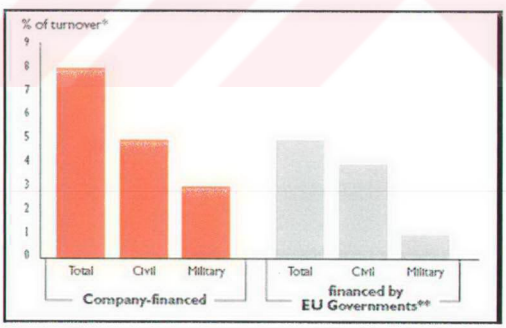

Figure 2. 16 R&D Expenditure of EAI SMEs

[193] Interavia Business&Technology, "Industry's Approach to EU R&T Programme", Vol68,Issue 736,2003.

As in all high-technology industries, R&D is an indispensable driver for the future success of the European Aerospace Industry. This is true for both the civil and military market. The aerospace industry is among the industries with the highest share of R&D expenditure in relation to turnover.[194] Even with the difficulties encountered in 2002, R&D spending increased €400 million to €10.4 billion or 14% of turnover (Figure 2.17). R&D investment in the civil area accounted for 49% of this value.

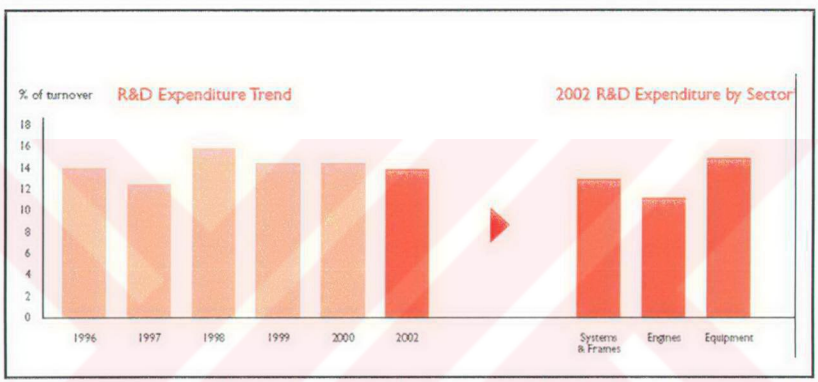

Figure 2. 17 R&D Expenditure of EAI[195]

In 2002 56% of the total aerospace R&D expenditure in Europe was financed by the industry (Figure 2.18). On the civil side, three quarters of the funding was provided by industry, with only one quarter being derived from governments. In the military field, which traditionally features development to order, 38% of expenditure was financed by industry in 2002. The industry dedicated 65% of their R&D funds to civil projects.[196]

[194] P. Busquin, "Fast Forward for European Aerospace R&D", Ineravia Business & Technology, Vol.56, Issue 655, 2001.
[195] AECMA Report, The European Aerospace Industry, 2002.
[196] Eurostat Country Report, European Union, 2002.

2.2.2.3.6 Suppliers

Despite not being directly involved in manufacturing, it should be noted that supplier firms should also be investigated to better understand a spesific industry since suppliers are one of the major stations of a supply chain having a great impact on competitiveness. Therefore, in this part a brief discussion of both EU and US suppliers is given.

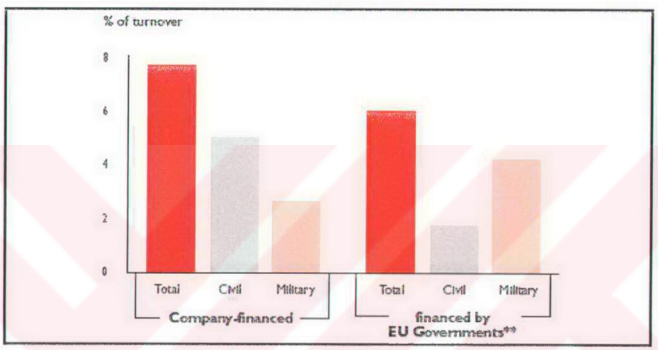

Figure 2.18 R&D Expenditure of EAI[197]

Companies are riding the wave of surging commercial transport sales, while also enjoying a healthy backlog of defense business. Aerospace equipment suppliers in the 15 countries of the European Union reported non-consolidated sales of 17,729 million ecus in 1998 (Table 2.1), an increase of 16.8%. The customer base breaks down into EU industry 8,768 million ecus; operators (airlines, armed forces, etc) 6,703 million ecus; and non-EU industry 2,258 million ecus.[198]

This second consecutive year of growth follows the low point reached in 1996 after five tough years at the start of the decade. The proportion of sales to EU states has dropped from 20.9% in 1997 to just under 17% in 1998, without adjustment for inflation. The figures also reveal an increase in the proportion of civil sales, from 52.2% to 54.9% of the

[197] AECMA Report, The European Aerospace Industry, 2002.
[198] N. Beauclair,"Europe's Equipment Suppliers Looking Good", Interavia Business & Technology, Vol.55, Issue 638, 2000.

total, a result of booming business at Airbus and the strength of other programmes, such as Dassault's Falcon bizjets, which logged record sales of 99 aircraft in 1998.[199]

Table 2.1 European Equipment Suppliers Sales (1991-1998)

European Equipment Supplier Sales (1991-1998) (billion ecus)	
1991	19.49
1992	17.01
1993	15.88
1994	14.77
1995	14.33
1996	13.78
1997	15.17
1998	17.73

All of the European companies in Figure 2.19 supply parts and components used in U.S. aircraft and engines or partner with U.S. manufacturers in aerospace joint ventures. There is significant variety in the ownership of European major suppliers. Some European manufacturers are partially government-owned.

Despite the success of some European equipment suppliers in getting onboard North American regional aircraft and bizjet programmes, non-EU business slipped 5.1% in 1998. The 36.7% jump in domestic civil sales confirms the role of Airbus programmes as a prime mover for the equipment industry. Even if the workload generated by regional aircraft with less than 70 seats is considerable, the contribution to turnover is less than for the larger commercial transports.[200]

While overall sales of commercial equipment rose 23% in 1998, growth in military sales was just 10.1%, as exports dropped 21% with the end of major programmes, such as deliveries of Tornados to Saudi Arabia and Dassault Mirage 2000-5s to Taiwan and Qatar. However, the volume of export contracts signed in 1998 holds promise of better days

[199] AECMA Report, The European Aerospace Industry, 1998.
[200] Economist,"Huddling Together", Vol.358, Issue 8212, 2001

ahead. Saab/BAe received an export launch order from South Africa for the Gripen combat aircraft. BAe also anounced export successes for the Hawk advanced trainer in South Africa and Canada (NFTC programme). Dassault, meanwhile, wrapped up a contract for the sale of 30 Mirage 2000-9s to the UAE and the modernization of 33 Mirage 2000s to the -9 standard. [201]

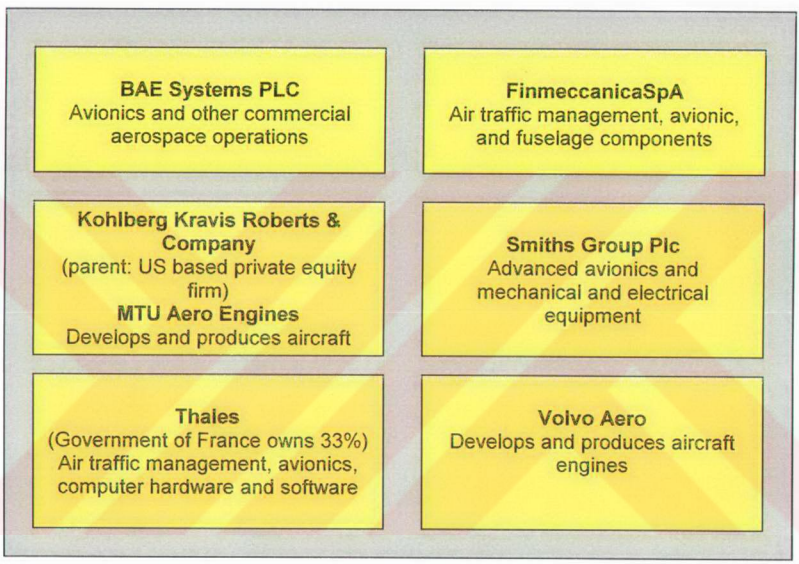

Figure 2. 19 Eropean Major Suppliers

Such diverging practices clearly make difficult with attempts to rank the EU's different national equipment industries and with year-on-year comparisons. France, which headed the field in 1997 with 5,509 million ecus (vs. 5,326 million ecus for the UK), now, finds itself way behind the UK -7,546 million ecus vs. 4,873 million ecus. Similar anomalies are encountered in workforce numbers, where the French figures have shrank by 4,250 with the

[201] N. Beauclair,"Europe's Equipment Suppliers Looking Good", Interavia Business & Technology, Vol.55, Issue 638, 2000.

reclassification of Gifas Equipment Group members, while the UK figures have jumped from 46,846 to a record 63,298. This follows an increase of 17,000 in the UK workforce between 1996 and 1997, for only a minor increase in sales. Figures for Germany, Italy and Spain show increases in the size of the workforce in line with sales, while data for some of the smaller countries show variations that seem hard to explain.

European industry spent 10 billion ecus on R&D activities in 1998, including 20.2% for equipment, 15.7% on aircraft and 14.2% on engines. The definition of R&D includes basic research, technological research and development leading to series production. Although the R&D effort of European equipment makers as a proportion of sales is falling (from 18.9% in 1996 to 11.8% in 1998), spending has risen from 1.6 billion ecus to more than 2 billion ecus in 1998, a trend that is expected to continue with the backing of the EU's R&D framework programme. The fifth programme includes Euro700 million for aeronautical activities, one-third of which is earmarked for programmes led by equipment suppliers, provided that they can provide an equivalent level of financing out of their own resources. [202]

While the creation of Europe's new mega-firms may be cause for celebration among the prime contractors directly involved, it poses major challenges for small players further down the supply chain. With the new European giants desperately seeking a competitive edge over their US rivals, small and medium-sized enterprises (SMEs) find themselves in the front line as the primes relentlessly push to squeeze extra costs out of the procurement process. The effects of this pressure are clearly visible in moves to relocate production in low-cost zones and in the ongoing consolidation process in the sub-prime tiers of the European aerospace industry. More than half (422) of the 756 members of the various national industry organisations in Europe meet the EU criteria for SMEs, an independent company with less than 250 employees and less than Euro40 million in annual sales. In 1998, SMEs classified as equipment suppliers logged total non-consolidated sales of 2,027 million ecus, or 11.4% of total EU equipment supplier sales. The vast majority of

[202] M. Bangemann,"Europe's Way Forward in Aerospace and Defence", Interavia Business & Technology, Vol.53, Issue 620, 1998.

customers are European, and only a fraction of business is directly with governments.[203] Hence the persistent call of SMEs to have greater access to state R&D credits. This persistency is finally starting to pay off, within the 5th framework R&D programme, a total of Euro363 million has been earmarked specifically for SMEs. The European Commission and Aecma have jointly set up a structure, called AeroSME, to encourage small companies to take part in aerospace projects under the 5th R&D framework programme.

2.2.2.4 Competition in the Market

The competition in the global arena is severe although it is dominated by tow major players, US and EU. After analyzing the structure of the market in Europe, it should be understood where Europe is standing in the global market. In this part, global competition is analyzed from a European perspective. The analysis is generally based on four players, namely, Canada, EU, Japan and US, and the sum of the rest.

The Aerospace manufacturing countries of the world (except the CIS and the PR China) are estimated to have achieved a combined sales volume of €212 billion Euros in 2002, a drop of 10 % compared to 2001.[204]

The Figure 2.20 represents consolidated sales for the respective entities. However; it does include sales between entities. The US aerospace has decreased its share from 49 % in 2001 to 48 % in 2002 of the worldwide turnover but has continued to employ 46% of the direct employees worldwide (Figure 2.21). This is despite the considerable effort of the US administration which increased the budget by more than 12% for space, security and defense.

[203] T. Grant,"Air Wars", World Link, Vol.12, Issue 6, 1999.
[204] Available on site: http://www.aecma.org

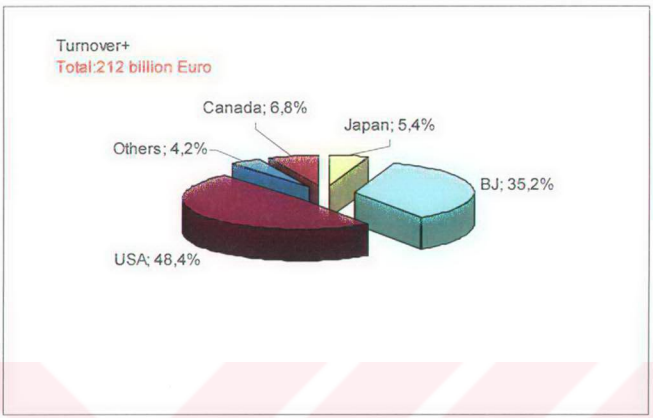

Figure 2. 20 Global Aerospace Turnover Breakdown by Countries

The EAI has contributed about one third of sales and employment, making the Economic Block the incontestable number two globally. Moreover, the EAI saw a slight increase in its percentage of worldwide turnover rising from 34 % in 2000 to 35% in 2002.

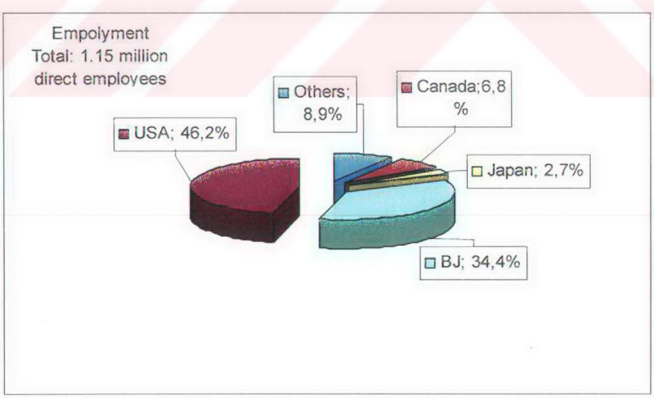

Figure 2. 21 Global Aerospace Employment Breakdown by Countires

Significant differences can be noted for the four largest aerospace manufacturing entities in respect to their customer base. In 2002, like in 2001, Canada and then the EU are the least dependent ones on orders from their national authorities, while in Japan national agencies are the main customers (Figure 2.22).

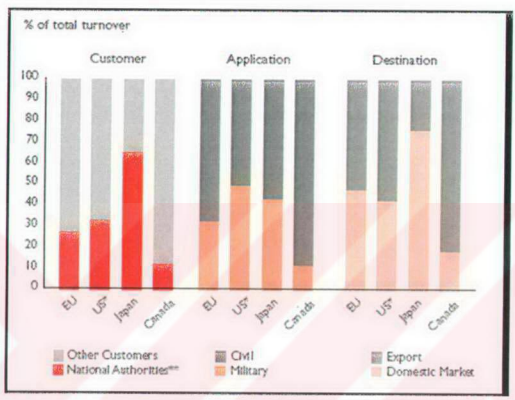

Figure 2. 22 Comparative Aerospace Industry Turnover[205]

As for product application, Canada's aerospace industry is almost 90% engaged in civil products and services followed by the EU with 68%. The US and Japan makes 51% and 57% respectively of their turnover with civil products and services. On a global scale, two thirds of the sales were for civil markets. Concerning the destination of the aerospace industries' products and services; Canada is leading in export intensity with a rate of 82%. The EU and the US exported 53% and 58% respectively of their sales, while Japan produced primarily for the home market.

Very few European companies have the scale and the range of interdependent activities of their US competitors. Even the largest European aerospace companies, British Aerospace, Aerospatiale and Daimler-Benz Aerospace, are only between one-quarter and one-fifth of the size of their larger US competitors.

[205] AECMA Report, The European Aerospace Industry, 2002.

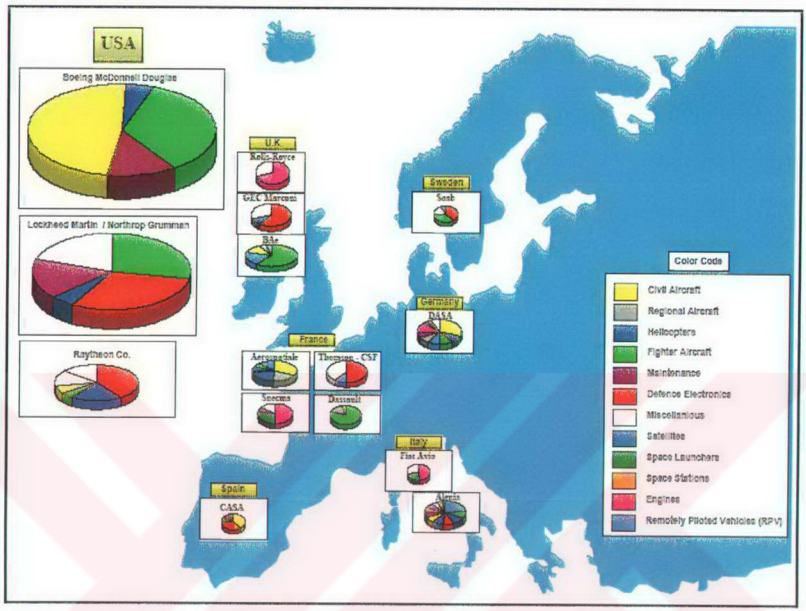

Figure 2.23 Size / Range Comparison of Major EU/US Companies

The period of sustained development which was enjoyed by the European aerospace industry in the 1970's and 80's was badly dented in the early 1990's, firstly because of the fall in defense-related activity following the end of the cold war and secondly because of the slump in civil orders which accompanied the massive losses experienced by the airline industry in the first four years of the decade in the aftermath of the Gulf War.[206]

In 2004 the aerospace manufacturing countries of the world had an estimated turnover of €195 billion or a 4% increase according to 2003 (Figure 2.24). The two major Aerospace producing economic regions, the EU and the US, have both seen increases in turnover and combined account for 85% of worldwide aerospace turnover. Moreover, though the US

[206] G. Vicki,"From Competition to Collaboration: The Challenge of Commercial-Class Aircraft Manufacturing, International Organization, Vol.46, No.4, 1992, p.899-934.

share of the pie has increased, this is primarily due to the sharp jump in defence spending that the US AI enjoyed in 2004 and will for the foreseeable future.

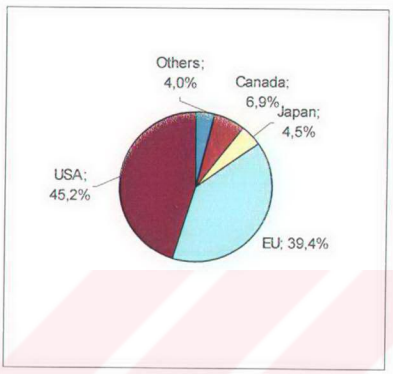

Figure 2.24 2004 Comparative Industry Turnover[207]

The US share of worldwide turnover in 2004 was 45.2% compared with 44% in 2003, but its share of employment was reduced by the increase in the EU which went from 38% of worldwide employment to 39,3% in 2004. The EAI continues to be the strongest aerospace industry after the US and has a worldwide market share of 39,4 % (2003: 39,5%).

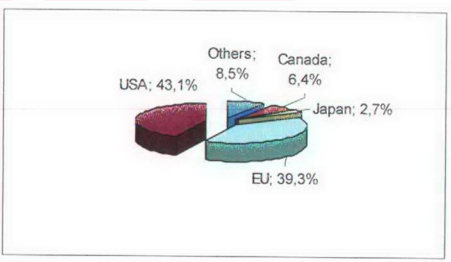

Figure 2.25 2004 Comparative Aerospace Industry Employment[208]

[207] Aerospace and Defence Industries Association of Europe Report, Facts and Figures, 2004.
[208] Aerospace and Defence Industries Association of Europe Report, Facts and Figures, 2004.

2.2.2.5 Transatlantic Aerospace Industry Cooperation Dimension (EU vs US)

The global competition and the position of EU in the global arena is discusses in the previous chapter. It is also mentioned that two major players are EU and US, struggling for number one position. Market leader position of US is stabilized for long time, however, acting in a community approach, EU is becoming stronger in the market. As the most important manufacturers, these two countries play the most important roles in the political competition behind the aerospace industry. Thus, the competition on the two sides of Atlantic should be analyzed separately. In this part, transatlantic aerospace industry and the competition between two giants is discussed.

Europe's restructured aerospace/defense sector constitutes a powerful rival for US industry. Things have moved on since the end of the Cold War, when an abrupt decline in US defense spending triggered a wave of consolidation and unleashed a new breed of export-hungry US giants onto world markets. As European industry scratched its head about what to do next, the predators, aided by US protectionism, gobbled up business around the globe, including in Europe's own back yard.[209]

The strong cross Atlantic trade between the European and US has again been highlighted by the important interchange of products and services. Though EAI imports fell in 2004 from both the US and Rest of the World, the European Industry exports showed strong results increasing to the US and worldwide by 22% and 28% respectively (Figure 2.26). This is testament to the strong range of European offerings that are increasingly being consumed by not only Aerospace Industry Companies in the US but also worldwide. However, this could also be the result of European companies increasingly establishing assembly operations around the world, such as Eurocopter has recently done in the US.[210]

[209] N. Beauclair and J. Dupon,"Partners and Competitors", Interavia Business & Technology, Vol.55, Issue 648, 2000.
[210] Aerospace and Defence Industries Association of Europe Report, Facts and Figures, 2004.

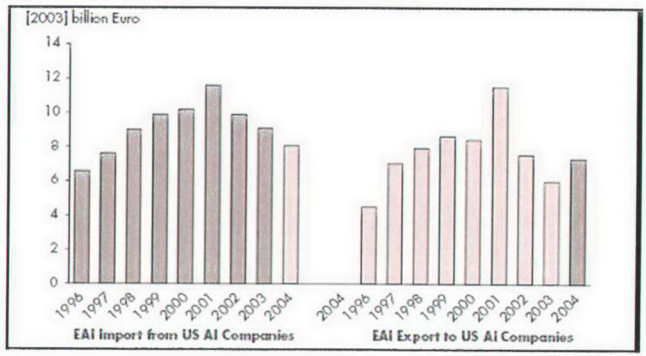

Figure 2.26 EU-US Aerospace Industry-To-Industry Turnover

In comparison with the US, the pace of consolidation in Europe has been dramatically slow. With much smaller home markets and overall shares than their American counterparts, there are still 6 civil aircraft producers (1 in the US), 6 combat aircraft companies (2 in the US), 3 helicopter manufacturers (3 in the US), 12 missile producers (4 in the US), at least 6 major producers of defense electronics (4 in the US) and 5 satellite prime contractors (4 in the US) in Europe.[211]

Faced with the very real prospect of being driven out of business altogether, European industry finally got its act together and has now consolidated along broadly similar lines to its US rivals. The boundaries that separate EADS (transport and space) from BAE Systems (defense) and Thomson-CSF (electronics) are comparable to the boundaries between Boeing, Lockheed Martin and Raytheon, hence the temptation to focus on the image of "Fortress USA" against "Fortress Europe".

The new-look European industry has already chalked up some successes, particularly on the military front. Matra BAe Dynamics, jointly owned by EADS and BAe Systems, broke the US strangle-hold on air-to-air missiles for NATO countries, when its Meteor project was selected by the UK in preference to Raytheon's Amraam. Not only will the UK lead be

[211] A. Wells and G. Wensveen,"Air Transportaion", Fifth Edition, Thomson, Florida, 2002.

followed by Germany, France, Italy, Spain and Sweden, but an agreement with Boeing, covering integration of Meteor on the F/A-18 and F-15, has opened the door to new markets. Also exploring the possibility of doing business together are Thomson-CSF and Raytheon. And Thomson is part of a three-way team, along with Lockheed Martin and EADS, looking into airborne radar and tanker concepts based on the A310 and A330/A340.[212]

On the commercial transport side, other factors are working in favour of a more balanced relationship between the two sides of the Atlantic. Airbus is pulling level with Boeing, and preparing to launch the A3XX large-capacity transport family. However, Europe's A400M airlifter is also poised for launch, and the two programmes together will place a considerable strain on the human, technical and financial resources of the European company. Airbus is likely to give a warm welcome to new US partners, starting with the equipment suppliers, anxious to compensate for the inroads that Airbus is making into their Boeing business base.

Not surprisingly, the £500 million government loan requested by British Aerospace to build the wing of the future A3XX high-capacity airliner has triggered a strong reaction from Boeing. On the basis of the 1992 USA/EU agreement on commercial aircraft, the Seattle manufacturer denies BAe the right to benefit from any government help as long as the economic viability of the A3XX programme has not been proven. On the one hand, Boeing is trying to show that there is not a sufficient market for a very large aircraft, while on the other hand it wants access to the business plan submitted by the UK firm in support of its loan request.[213]

There are many who maintain that the concept of a European or US commercial transport is already outmoded, the market is global and the Airbus and Boeing supplier networks both spread worldwide. To take just one example, 40% by value of an Airbus aircraft is produced by companies based in the USA. Over the period 1990-1997, Airbus Industrie

[212] N. Beauclair and J. Dupon,"Partners and Competitors", Interavia Business & Technology, Vol.55, Issue 648, 2000.
[213] N.Beauclair,"Helping Industry to Compete", Interavia Business & Technology, Vol.53, Issue 625, 1998.

spent a total of $15 billion on products manufactured in the USA, where its supplier network now includes some 800 companies. From this year onwards Airbus' procurement spends in the USA is expected to reach around $5 billion per year, significantly more than the amount that Boeing claims to spend on buying equipment and subassemblies in Europe. Among the major US suppliers on Airbus programmes are GE and Pratt & Whitney (engines), BFGoodrich (wheels and brakes), GE/Honeywell (APU, avionics), Sundstrand (APU) and a variety of aerostructures and component suppliers such as The Aerostructures Corp and M.C. Gill Corp.[214]

Since Boeing is locked in battle with Airbus, the US is a competitor for European industry. However, Boeing retorts that, although it is a player in almost every segment of the aerospace market, a major portion of its business is sourced in Europe.

Suppliers of Boeing, whatever their geographical location, are now an integral part of the supply chain, linked to Boeing by strategic partnerships and risk-sharing agreements. A good illustration of the new strategy is provided by the single-aisle Boeing 717, half of Boeing's 14 partners on the programme are European; they have been involved in the programme from design through to series production. According to Boeing, about half of each aircraft produced in Europe. The companies involved are Alenia (Italy), Labinal/Snecma (France), Rolls-Royce (Germany), Smiths (UK), Fischer Advanced Composites Components (Austria) and Andalucia Aerospacial (Spain).[215]

Boeing also underlines that Snecma's share of the CFM56 engines for the Boeing 737 family constitutes a major source of revenues for the French firm, $2.5 billion over the period 1991-1996, and a predicted $6.8 billion in 1997-2005. Equipment suppliers and subassembly manufacturers cannot afford to pledge allegiance to just one of the two airframers, and many have not hesitated to cross the ocean and establish local facilities to boost their chances.

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[214] N. Beauclair and J. Dupon,"Partners and Competitors", Interavia Business & Technology, Vol.55, Issue 648, 2000.
[215] M. Taverna,"East Meets West", Aviation Week & Space Technology, Vol.160, Issue 19, 2004.

The best example is BAE Systems, which has launched an ambitious series of acquisitions in the USA. Following its merger with Marconi, which included US target and countermeasures specialist Tracor, it has snatched up Lockheed Martin's engine controls, flight controls and electronic warfare businesses. The UK group employs 22,000 people and generates sales worth $3.7 billion in North America. Activities range from defense electronics to the wings of the Boeing 717, built at Palmdale. Another example from further down the supply chain is Pechiney, which acquired the Century group's aluminium plants in Vernon and Ravenswood. Through this move, the French group bought itself into the Boeing supply chain, appreciating Century's long-term relationship with the Seattle firm.[216]

Other European firms to have made US moves recently include:

- GKN Aerospace, which acquired a Boeing fabrication facility in St Louis, thereby becoming a core structures supplier to Boeing;
- Alcatel, which has purchased $4.5 billion of telecom business in the USA;
- Sextant, which now has 100% ownership of Sextant Inflight Systems, previously a joint venture with B/E Aerospace; transport is Boeing
- Dowry Aerospace (soon to become part of Smiths Industries), which has taken control of former GE Aircraft Engines subsidiary Tri-Manufacturing;
- RDM, which acquired Boeing's commercial helicopter business;
- Messier Dowty, which has set up a design office in Seattle;
- Labinal (now part of Snecma), which acquired cable and wiring specialist Aerotec. Despite this flurry of activity, European firms remain far behind their US rivals when it comes to extending their reach across the ocean, as the following examples show:
- Pechiney's former Howmet precision casting unit is now part of the US Alcoa group;

[216] Bernstein Research, Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005.

- Precision Castparts Corp, which already has a subsidiary in France, has acquired UK casting specialist AETC;
- The Carlyle Group bought a majority stake in German casting specialist Honsel;
- United Technologies has acquired full ownership of French propeller specialist Ratier Figeac;
- Honeywell has aquired equipment suppliers Secan and Normalair-Garrett;
- SAMM is now part of the TRW group, following the latter's takeover of Lucas Varity. [217]

2.3 AVIATION INDUSTRY

In the previous chapter, to better understand the essentials of air transportation sector, a detailed analysis of a closely related sector, aerospace industry, is given. However, in deed air transportation sector is directly connected to aviation, which consists of air transportation of human and cargo, airports and air traffic management. In this chapter main focus is on airline business which is in the core of air transportation. First, the situation of aviatin industry is discussed in the following part. In this part, two popular issues in current aviation trends, air traffic and frequent use of technology (especially in MIS) is analyzed in details. Then, aviation industry in European Union is discussed. Here, generally competition and aliance and merger strategy which is one of the popular trends in aviation is analyzed. Then, effects of 11th September on European Aviation sector are analyzed. Finally, in the last part, after 11th September and SARS crisis, recent developments and current trends in the European Aviation is closely investigated.

2.3.1 Aviation Industry in the World

Air travel remains a large and growing industry. It facilitates economic growth, world

[217] N. Beauclair and J. Dupon,"Partners and Competitors", Interavia Business & Technology, Vol.55, Issue 648, 2000.

trade, international investment and tourism and is therefore central to the globalization taking place in many other industries. In this part general situation of the aviation industry in the world is discussed. Understanding concepts and trends in the world is helpful in understanding the situation in Europe. Two popular issues of today's aviation sector are analyzed deeply. First one is the air traffic conrol system requiring high investment. Then, frequent usage of technology in airline business is mentioned. Especially use of internet, customer relationship management and management information systems is focused.

In the past decade, air travel has grown by 7% per year. Travel for both business and leisure purposes grew strongly worldwide. Scheduled airlines carried 1.5 billion passengers in 2000. In the leisure market, the availability of large aircraft such as the Boeing 747 made it convenient and affordable for people to travel further to new and exotic destinations. Governments in developing countries realized the benefits of tourism to their national economies and spurred the development of resorts and infrastructure to lure tourists from the prosperous countries in Western Europe and North America. As the economies of developing countries grow, their own citizens are already becoming the new international tourists of the future.[218]

Business travel has also grown as companies become increasingly international in terms of their investments, their supply and production chains and their customers. The rapid growth of world trade in goods and services and international direct investment has also contributed to growth in business travel.

Worldwide, IATA, International Air Transport Association, forecasts international air travel to grow by an average 6.6% a year to the end of the decade and over 5% a year from 2000 to 2010. These rates are similar to those of the past ten years. In Europe and North America, where the air travel market is already highly developed, slower growth of 4%-6% is expected. The most dynamic growth is centered on the Asia/Pacific region, where fast-growing trade and investment are coupled with rising domestic prosperity. Air travel for the region has been rising by up to 9% a year and is forecast to continue to grow rapidly,

[218] Economist,"Let Fly",Vol.358,Issue 8212, 2001.

although the Asian financial crisis in 1997 and 1998 will put the brakes on growth for a year or two. In terms of total passenger trips, however, the main air travel markets of the future will continue to be in and between Europe, North America and Asia.[219]

Airlines' profitability is closely tied to economic growth and trade. During the first half of the 1990s, the industry suffered not only from world recession but travel was further depressed by the Gulf War. In 1991 the number of international passengers dropped for the first time. The financial difficulties were exacerbated by airlines over-ordering aircraft in the boom years of the late 1980s, leading to significant excess capacity in the market. IATA's member airlines suffered cumulative net losses of $20.4bn in the years from 1990 to 1994. Since then, airlines have had to recognize the need for radical change to ensure their survival and prosperity. Many have tried to cut costs aggressively, to reduce capacity growth and to increase load factors. At a time of renewed economic growth, such actions have returned the industry as a whole to profitability: IATA airlines' profits were $5bn in 1996, less than 2% of total revenues. This is below the level IATA believes is necessary for airlines to reduce their debt, build reserves and sustain investment levels. In addition, many airlines remain unprofitable.[220]

To meet the requirements of their increasingly discerning customers, some airlines have to invest heavily in the quality of service that they offer, both on the ground and in the air. Ticketless travel, new interactive entertainment systems, and more comfortable seating are just some of the product enhancements being introduced to attract and retain customers.

A number of factors are forcing airlines to become more efficient. In Europe, the European Union (EU) has ruled that governments should not be allowed to subsidize their loss-making airlines. Elsewhere too, governments' concerns over their own finances and recognition of the benefits of privatization have led to a gradual transfer of ownership of

[219] Available on site: http://www.iata.org/pressroom/industry_facts/stats/2005-10-31-03.htm
[220] Available on site: http://www.iata.org/ContentConnector/CS2000/SiteInterface/sites/soi/file/fast_facts.pdf

airlines from the state to the private sector. In order to appeal to prospective shareholders, the airlines have to become more efficient and competitive.[221]

Deregulation is also stimulating competition, such as that from small, low-cost carriers. The US led the way in 1978 and Europe is following suit. The EU's final stage of deregulation took effect in April 1997, allowing an airline from one member state to fly passengers within another member's domestic market. Beyond Europe too, 'open skies' agreements are beginning to dismantle some of the regulations governing which carriers can fly on certain routes. Nevertheless, the aviation industry is characterized by strong nationalist sentiments towards domestic 'flag carriers'. In many parts of the world, airlines will therefore continue to face limitations on where they can fly and restrictions on their ownership of foreign carriers.[222]

The last fifteen year has seen a proliferation of deregulation in transportation industries throughout the world; in the United States, Canada, Australia and Japan. While it is easy to view the European liberalization of civil aviation as a latecomer to this trend, it takes place in by far the most difficult environment thus far. All previous deregulatory efforts have been solely domestic in nature. Even where trade between nations has been liberalized (such as in the North American Free Trade Agreement), transportation sectors have been explicitly excluded. White deregulation in individual countries has proceeded quickly, even though the various legislations provided for phased processes, the politics in Europe arc likely to move the process along much more slowly. This expected sluggishness is due to two factors: the close association of the major European carriers with national governments, and differences in the competitive postures of these airlines.[223]

Despite this, the airline industry has proceeded along the path towards globalization and consolidation, characteristics associated with the normal development of many other industries. It has done this through the establishment of alliances and partnerships between airlines, linking their networks to expand access to their customers. Hundreds of airlines

[221] Association of European Airlines, Towards an Efficient European Air Transport System, 2003.
[222] D. O'Reilly,"The Changing Pattern of Air Transport Regulation",Public Money & Management, 1998.
[223] K. Button, "Deregulation and Liberalization of European Air Transport Markets", Vol. 14, No. 3, 2001.

have entered into alliances, ranging from marketing agreements and code-shares to franchises and equity transfers.

The outlook for the air travel industry is one of strong growth. Forecasts suggest that the number of passengers will double by 2010. For airlines, the future will hold many challenges. Successful airlines will be those that continue to tackle their costs and improve their products, thereby securing a strong presence in the key world aviation markets.

2.3.1.1 Air Traffic Capacity Estimates

Air traffic is increasing day by day, and by 2015 it is expected that air traffic will be doubled and it will have become almost impossible to handle expected air traffic amount by current systems. So it is required making investments on alternative approaches for air traffic control. As seen in Figure 2.28, especially in underdeveloped countries (such as China), it is expected an important growth of air traffic and infrastructure of these are already insufficient. Thus air traffic issue should be considered immediately especially by these countries.

The present air-traffic-control system tells the pilot what turns to make. An alternative would be a clear windshield and ability to see traffic along a highway for pilots. There are possibilities of a satellite-based system that could take over from conventional air-traffic control, allowing twice the number of aircraft flying in most parts of the sky at any time. The system is known as free flight. Boeing is so excited about the potential $70 billion-a-year market that it is setting up a new company to provide systems for this revolutionary form of air-traffic control.[224]

At present pilots are controlled by a ground-based system that obliges them to stick rigidly to prescribed routes, often not the shortest ones, dictated by the need to stay close to radio beacons or radar stations. Under the new system they would be able to choose their own route and file a flight plan that follows the most efficient and economical path. Conventional air-traffic control, which relies on radar and wireless communications, has

[224] Economist,"Free as a Bird", Vol.358, Issue 8212, 2001.

severe limits in today's crowded skies. Radar is accurate to only a few miles, and involves exchanging much routine information between the pilot and the controller over the airwaves.[225]

Modern satellites and digital technology offer a way round this. Thousands of aircraft are already fitted with global-positioning-system (GPS) navigation aids. These are based on the American Defense Department's satellite network, which is capable of pinpointing an aircraft's position to within a few metres. Under conventional air-traffic-control systems, aircraft have to stay five miles apart at the same level or be separated vertically by at least 1,000 feet. Obviously, if the more precise technology now available were brought into general use, more aircraft could be packed into a given area of sky, increasing the system's capacity.

Air traffic in America and Europe is expected to double by 2015, so something needs to be done. In America air-traffic delays already run at around 50,000 a month (one flight in four) during the peak summer season, and in Europe things are worse: one flight in three is more than 15 minutes late, mainly because of hold-ups by air-traffic control. Most people reckon that the skies are already overcrowded. With few new airports and runways being built outside Asia, attention is turning to how the present capacity can be managed more effectively. [226]

Both America's Federal Aviation Administration and Eurocontrol, the Brussels-based body that co-ordinates European air traffic, are working on a phased introduction of free flight as a way of handling more flights without more runways and airports. The FAA is careful to point out that free flight is not a free-for-all at 35,000 feet, but a way of minimising air-traffic restrictions to speed things up. No one expects it to replace air-traffic control on the ground. But much of the ground controller's job will pass to the pilot, and more of the communication between the two will be by automated digital data flow. The ground

[225] Available on site: http://www.natca.org/currentissues/default.aspx
[226] Available on site: http://www.logisticstoday.com/displayStory.asp?nID=7000

controller will monitor what is going on and be ready to intervene when something is going wrong and the pilot needs to be alerted to a danger.[227]

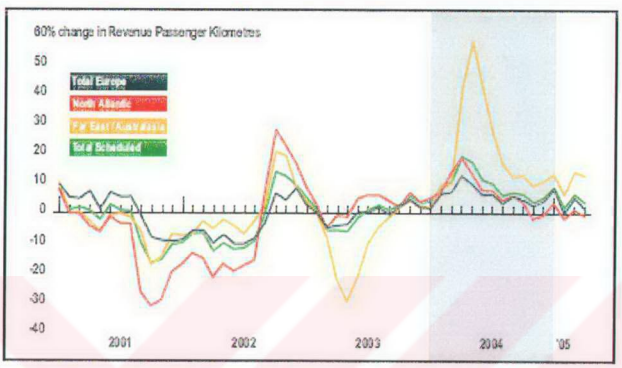

Figure 2.27 Monthly Traffic Monitor[228]

Europe's air-traffic-control system suffers from having 31 national sub-systems, which means that a lot of air time is spent handing over from one to another. For the immediate future, the Europeans are trying to break down such barriers as a way of enabling the system to handle more traffic. But beyond 2005, Eurocontrol has plans for introducing autonomous separation, a limited form of free flight, which the organisation thinks could add as much as 40% to airspace capacity, by having aircraft flying closer together without jeopardising safety. Beyond 2010, it plans for more extensive free flight to yield a further 40% improvement.[229]

[227] J. Bowen,"Network Change, Deregulation and Access in the Global Airline Industry", 2002.
[228] Association of European Airlines, Yearbook 2005, 2005.
[229] Economist,"Free as a Bird", Vol.358, Issue 8212, 2001.

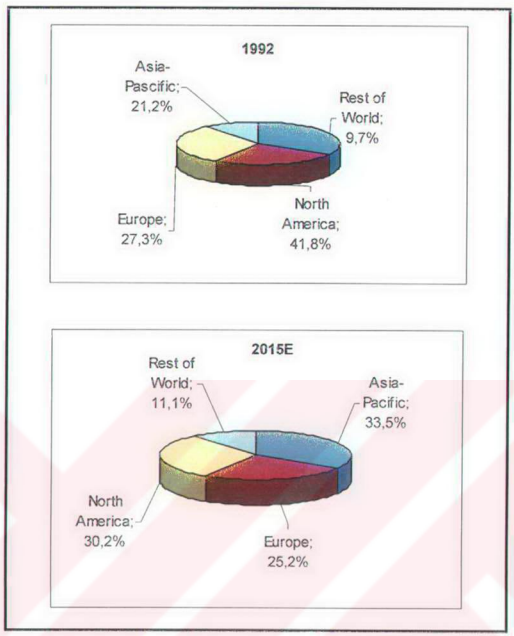

Figure 2.28 Air Traffic in 1992 and Expected in 2015[230]

2.3.1.2 Technology Factor

The airline industry is one of the most competitive and strategic industries in the world. Functioning on a business cycle and being run by individual companies, there are many factors which come in to play when trying to differentiate amongst the airlines. One main factor to gain a competitive advantage in the industry is by using information technology to its fullest extent. By using IT, companies can provide better service to their customers with the cheapest fees. IT can provide easier access for people to make reservations and make a company stand out amongst the competition. An airplane should always depart on time and it is IT which can make these dreams a reality. In the airline industry time is money and

[230] Bernstein Research, Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005.

money is time and it is important that every company have an advanced scheduling process to fit people's needs, and a navigational system that allows planes to arrive on time. On the other hand of the spectrum, companies must also use an appropriate way to distribute tickets. E-ticketing, or online ticketing, is the wave of the future. By providing this service, companies will save money and customers will save time and effort. Finally, seeing that in the airline industry customers are the number one priority, companies must reward their customers. By having a reward program, customers will be able to receive free tickets to flights and receive the most distinguished of accommodations by being loyal to one airline. By doing this, customer loyalty is expected in the near future.

Multi-million dollar management information systems (MIS) that handle everything from reservations to car rentals and software for increasingly complex calculations that maximize the daily financial yield of available resources, whether seat allocations and pricing or currency exchange rates and fuel costs, have become indispensable in competitive markets.

There is no doubt that the most tangible change around the aviation now is the effect of the Internet on sales and distribution. This is not simply another way of delivering the product. The information-seeking power of the web will, for the first time, provide consumers with their own weapon to wield against the airlines' yield-management systems.

This could also have wider repercussions; for example, it could affect the way the proposed mergers in America will operate. The apparently overweening power of three national airline networks could be mitigated to some extent by the transparency in fares that online agencies can bring, especially if some of them are outside the control of the airlines. But even the airlines themselves, by participating in joint sites, are opening the door on the secret world of fares and deals. The web-armed consumer will be much more aware of the burgeoning point-to-point services of low-cost carriers as well as the larger networks of the

mainstream airlines. As the barriers to international mergers start to crumble and mega-carriers begin to form, this will start to apply not only to America but worldwide.[231]

The Internet is also beginning to reshape the industry. Already airline tickets are the biggest-selling commodity on the web. For some budget carriers, online sales now make up 90% of the total, although for mainstream airlines the share is still below 5%. One big advantage of the Internet is that it gives consumers access to better information about what is on offer. Conversely, as more people buy their tickets online, the airlines get to know more about their customers' needs and preferences. By hooking up powerful databases to interactive websites, the idea is to bind a customer into travelling with your airline, rather than anyone else's, by offering tailor-made deals reflecting his known preferences.[232]

The Internet and aviation were made for each other: flights are a high-value, perishable commodity on which up-to-date information can be made available electronically. The airlines, for their part, depend for their profits on what they call yield-management systems, which are highly sophisticated computer models for altering the price of seats on a given flight to reflect the demand over time. This is the system that doles out cheap tickets to early bookers and ensures that last-minute travelers needing flexible tickets pay much more for the privilege. The Internet offers advantages to both buyer and seller, because it can cope with a rapidly changing market.

The Internet offers airlines huge savings on their marketing and distribution costs, which make up about a quarter of their total operating expenses. For a start, it saves them commissions of up to 5% on ticket sales. It also eliminates the cost of printing and sending out tickets and the fees (around $11 per ticket) for the computerised reservation services that are the lifeblood of today's distribution.[233]

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[231] Economist, "Flight of Fancy", Vol.358, Issue 8212, 2001.
[232] Association of European Airlines, Economic and Political Analysis of Computer Reservation Systems, 2001.
[233] Economist,"Webbed Wings", Vol. 358, Issue 8212, 2001.

2.3.2 Aviation Industry in European Union

Having understood the importance of aviation industry in the world, the condition of aviation industry in the European Union will be analysed in detail in this section. As it is mentioned in the previous section, it is expected that the airline traffic will double in 2015 and with the joining of the new countries into the Union a considerable amount of this traffic will come into existence in the constitution of the Union. It is inevitable that a dense competition will be experienced in such a market which has got a great potential. For this reason, taking precedence the competition among the members of the European Union and the competition between the member countries and the other European countries is touched upon.

When the high investments and costs Aviation Industry calls for are taken into consideration, the combination of airlines and participating in common enterprises have become one of the customary trends of the contemporary market. So, the alliances within the European Union have been touched upon in detail and the situations of these alliances have been analysed. As it is mentioned before, in terms of economic prosperity, the World market is concentrated on both sides of the Atlantic. This need also helped the airline companies in the USA and European Union improve. Today, the European and American companies dominate the World market in the financial sense. But while these companies are struggling for the undeveloped market such as the Asian market, they are also in an intensive competition for the quite satisfied transatlantic market. Thus, in the next section the competition of the American and European companies for dominating the World Market is analysed under the heading "Transatlantic Aviation Industry". Following this section, the September the 11^{th} attacks which have drastically affected World Aviation Industry have been discussed. The decrease in demand caused by the fear of security caused some eminent airline companies to go bankrupt and those that managed to go on their way have been seriously affected by this crisis.

As the drastically impacts of this crisis on European Union's Aviation Industry are taken into consideration, this topic is analysed in detail under a different heading. Following this

crisis aviation, aviation industry was shaken for the second time by another crisis, the SARS threat. After the impacts of these two crises the latest condition of European Union Aviation Industry, trends and the latest improvements are analysed in detail in the final section.

An industry in rapid structural change, in which many established carriers are experiencing major losses and are losing ground to low-cost carriers whose rise have important economic and social consequences.

A much tighter node-linkage structure in the European air transportation network has occurred since 1989. The end of the Cold War has created greater demand for travel between the eastern and western fringes of Europe, and the major airlines have responded by expanding their respective networks. Additionally, liberalization of the airways of the EU has made it somewhat easier for carriers to expand their service within the EU bloc and even beyond. Many non-EU nations have liberalized their air spaces somewhat so as not to be cut off from the EU economic core.[234]

Since January 1993, EU carriers have been able to set their own fares, subject to safeguards on predatory and excessive pricing, and take advantage of fifth freedom rights (up to 50% seating capacity) on flights between airports in other EU nations. The goal of the EU in 1997 is to implement full-scale cabotage within the bloc, meaning that carriers can serve a domestic route in another country free of capacity restriction. Thus, a flight from Frankfurt to Hamburg could be taken on British Airways, Italy's Alitalia or Belgium's Sabena (as well as the German carrier Lufthansa) in the near future with carriers competing for traffic based on items such as fares, frequent flier programmes and quality of service as opposed to flight and seating capacity constraints. [235]

The goal of such liberalization is to create a more efficient (both economically and better connected) air transport system with a pan-European focus. The trade creation and trade diversion effects of the EU bloc can be maximally felt only if all aspects of the economy

[234] J. Mccormick, The European Union: Politics and Policies, Westview Press, 1996.
[235] K. Button, K. Haynes and R. Stough, Flying into the Future, Edward Elgar Publishing, 1998.

and its infrastructure are operating at prime levels of integrated efficiency.[236] To reach maximum efficiency in the air transport industry and desirable competitiveness of the individual carriers, European airlines must rethink their network geographies (pattern of node-linkage associations), just as US carriers were forced to due to change in American regulatory policy at the end of the 1970s.

This could be quite a different task for airlines in Europe than was the case for US airlines after deregulation. The USA always represented a very large, single domestic market, while Europe's airways are divided into several discrete national markets served by domestic, often state-owned carriers that focus the bulk of operations on their largest cities. For many European airlines, the customer base is largely their own citizens going to or from their home country to various international destinations. It is important to lay stress on this distinction between the European and US networks before the liberalization of transport regulatory policy. If the US, prior to deregulation, had 50 major carriers (one for each state) with operations focused on the largest city of the state, and due to policy changes, were to some degree forced to create a system such as exists in the US today with a single market focus drawing customers from all over the nation. There would be a tremendous amount of chaos for individual carriers in the air transport system before reaching the single market goal, and some predict such chaos for Europe's airlines in the near future.

At the time when Resolution 1217 (2000) on European air transport policies, the need for a truly One Sky Europe was drawn up, it was mentioned that the Resolution of a time of rapidly growing demand for air transport and a critical situation of long, and worsening air traffic delays. A "One Sky Europe" was seen as an urgent necessity.[237]

The events of 11 September and the bursting of the new economy bubble had detrimental effects on EU airtransport industry. In early 2003, the Iraq crisis dampened demand for air transport. In the lead-up to the conflict, the price of oil has increased, adding to the cost of airlines to keep planes aloft, even if prices are likely to come down again as prospects

[236] R. Doganis, Flying off Course, Third Edition, Taylor & Francis Group, London, 2002.
[237] CILT World,"Single Sky Deal Agreed for Europe", Vol.32, Issue 8, 2005.

improve for a resumption of Iraqi oil exports in the post-conflict era. Finally, the SARS epidemic (Severe and Acute Respiratory Syndrome) has led to reduced tourism and business travel, not just to and from South-East Asia where it started and is most widely spread, but across the world. As a result, airlines have been obliged to cancel many flights.

The result has been a further loss in the profitability of airlines and of the air industry as a whole, in which latter term we also include airplane manufacturers, the air traffic management sector, maintenance, national authorities responsible for civil aviation, international organisations dealing with air transport, airports and many other actors. IATA reports overall losses in 2002 of about 13 billion dollars, while the Association of European Airlines (AEA) estimates the losses of European airlines in 2001 to have been over 3 billion dollars.[238]

These overall figures do not prevent certain airlines from doing reasonably well, to the extent that they have managed to make their operations more cost-efficient or are based in countries that have suffered less from the world economic downturn. Nor does it prevent many airports from making profits, even as the duty free era is now over inside the European Union area. Sales at shops in airports seem not to have suffered unduly, as passengers still appear to be led to many extra purchases as they enjoy their outside-of-time periods spent in airports while waiting for their flights.

The European Union in October 2002 became a member of Eurocontrol in its own right. The EU's membership is widely seen as helping to significantly improve the regulatory impact of Eurocontrol and forms part of the EU's attempts to reach greater coordination of the existing patchwork of air navigation systems via its 'Single European Sky' (SES) project. This is so because Eurocontrol does not have the necessary institutional and legal powers for effective rule making or enforcement. The 'Single European Sky' project is meant to overcome the present fragmentation and to reduce the cost of air traffic delays in the EU, which before the recent downturn was estimated at over 4.4 billion euros per year

[238] Parliamentary Assembly Report,"European Air Transport Policies: Crucial Choices at a Critical Time", 2003.

in the form of higher fuel costs, lower aircraft utilisation rates, and passenger inconvenience. The European Commission cites studies purporting to show that the American uniform system is able to handle a number of flights twice as high as that of the EU, but at a similar cost. It will of course be necessary to ensure that social rules applying to the staff concerned are being upheld, as regards the level of qualification, the level of remuneration and trade union rights.[239]

Up until recent years, before 11 September and before the bursting of the 'new economy bubble', many of the major airlines could still make a considerable profit due to high and rapidly rising demand. Even though cost-cutting was undertaken continuously by many of them, the fact that there were too many major, national airlines suffering various internal inefficiencies was obscured by the high demand.

For an industry that collectively lost $15 billion in the first few years of the 1990s, the past five years have brought a welcome change. The net profits of all scheduled airlines worldwide rose from $4.5 billion in 1995, when the boom began, to $8.5 billion two years later. However Asian crise influence the industry miserably and tribling oil pirce as a result of this profit decrases but sustainable level.[240]

The 70-odd airlines in which governments still have a majority stake will gradually be sold off. In the past few years the biggest wave of privatization has been in Europe. National carriers such as Germany's Lufthansa, Air France and Spain's Iberia have all been opened up to private capital, following the example of British Airways, which was sold off in 1987. Now Asian airlines may be going the same way.[241] Today, however, when demand has weakened considerably and fuel costs are high, the overcapacity in the industry, at least as far as the flag carriers are concerned, is becoming increasingly evident. To the more traditional and by now well-established charter phenomenon must now be added a more recent one, namely that of low cost carriers. Low cost carriers may offer a price of say,

[239] Parliamentary Assembly Report,"European Air Transport Policies: The Need for a Truly 'One Sky Europe", 2000.
[240] E. Juan,"Aviation: The Politics and Economics of a Boom", Foreign Policy, No.109, 1998, p.141-154.
[241] N. Adler and N. Hashai,"Effect of Open Skies in the Middle East Region", Transportation Research, Part A, Vol. 39, Issue 10, 2005.

only 20€ on a short-to-medium distance where a major carrier may charge something like a tenfold. While low cost carriers today represent only around 8% of total civil aviation in ECAC member states, this percentage is an impressive 35% in the United Kingdom and all of 60% in Ireland.[242] The proportion may still grow considerably, not least because it tends to create traffic by making many people who previously could not afford to fly pick up the habit. The lower prices offered can therefore be considered to be of general social benefit, especially since safety in all its aspects, due to the requirements of ECAC, Eurocontrol and IATA, is as guaranteed as it is on any regular flight.

There are many reasons why low cost carriers can offer the prices they do, and some of these reasons should not be exempt from either scrutiny or criticism. Commercial crew works for less money. More rotations, or round-flights, are possible in a single day, as congestion, and therefore delays, are less pronounced at the more remote airports normally used, and as the staff often help to clean the aircraft between flights thereby saving time and reducing costs. Low cost carriers normally offer few or no frills. Landing fees at the airports used are lower or non-existent, as the local communities concerned often offer special advantages in order to have any air connections at all – a vital prerequisite for them to attract business. Passengers may also pay indirectly due to longer and more costly transport from remote airports to the major cities where they are headed. Finally, reservations are often done via the Internet, obligatorily so in the case of many low cost carriers, signifying lower costs for operators.

Traditional carriers could, for instance, create low cost subsidiaries of their own, or could introduce a shuttle service, say, every hour, with financial support from the parent company, and thereby effectively shut out competition from companies with fewer resources. Many members of the European Commission were at any rate quite positive to the low-cost carriers, feeling that it had instilled a new sense of competition into the market, while also believing it worthwhile to follow it attentively from the social, consumer protection and regional development perspectives.

[242] Parliamentary Assembly Report,"European Air Transport Policies: Crucial Choices at a Critical Time", 2003.

2.3.2.1 Competitiveness of EU Airlines

The European airlines have historically been sheltered from competition through bilateral agreements between member states and have been heavily subsidized. The 1992 liberalization program exposed these airlines to a more competitive environment with the entry of the world's other airlines to this once heavily protected market. The European airline industry differs significantly in structure from that in the United States. Due to the relativelly small size of the market, substitutes for air travel, even for the time-conscious business traveler, are significant. The train and the car are feasible alternatives in Europe given the shorter distances and the hour to two-hour prior-to-departure check-in requirements for international travel.

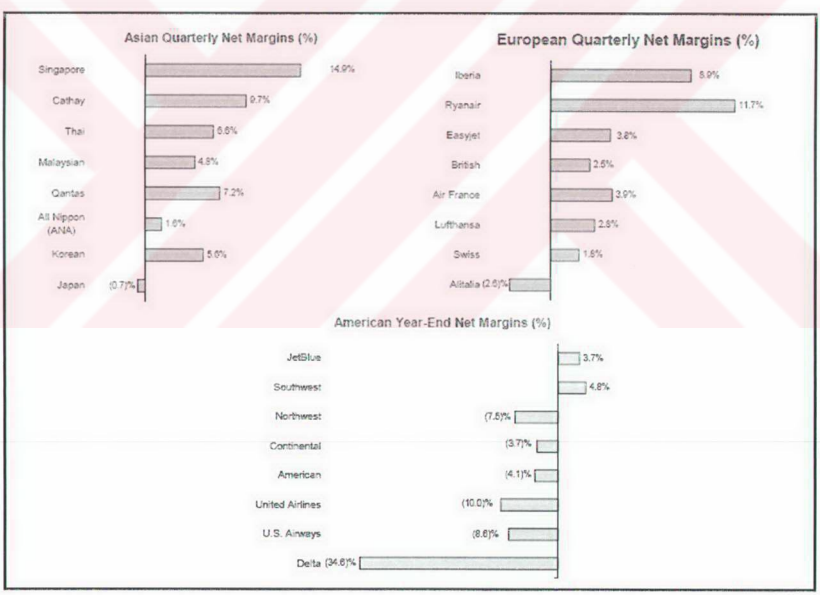

Figure 2. 29 Profit Margins of Major Airlines from Different Regions[243]

[243] Bernstein Research, Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005.

As seen in the Figure 2.29, in the competitive environment of global airline business, European firms can keep profitable. Especially Ryanair of England and Iberia of Spain are the most significant ones. In the global arena, the lead position of US in terms of profitability has shifted to Asian and European firms. With a sharp increase in terms of profitability in the lead of Singapure, Asian firms become as the major players. European firms successfully follow Asian competitors. Except Italian Alitalia, European firms are on the positive side in terms of net income.

Although American firms are still significant in terms of Total Operating Revenue in 2004 as seen in Appendix I, most of them have negative profits. However, in Europe major airlines except Alitalia making significant profits as well as operating revenues. This is mainly caused by the cost leadership of European firms and one voice approach, both drived and regulated by the efforts of European Commision. In the union, the leader in terms of both profitability and revenue is Lufthansa Group as seen in the Appendix I. It is followed by British Airways. Although AirFrance-KLM is not as effective as these airlines in terms of profitability, it is one of the most important players in Europe, which can also be deduced by the significant operating profit. Moreover, in terms of RPK (Revenue Passenger Kilometer) and passenger numbers carried, AirFrance-KLM is the leader in Europe with 64 million passengers carried and 169 billion RPKs in 2004. British Airways' specialization on long distance flight can also be seen in second highest RPK (106 billion) with relatively small number of passengers (35 million). Lufthansa Group is ranked third in RPKs with 50 million passengers carried and 104 billion RPKs.

2.3.2.2 Alliances & Mergers

Alliances tended to be transitional devices, most often found in industries undergoing structural change or escalating competition, where managers fear that they cannot cope.[244] In the everyday changing environment of airline business airlines tend to form alliances. In this part, this popular trend in aviation is analyzed. In order to understand the underlying structure of European Union aviation business, the major groups that drive the business

[244] M. Porter,"Competitive Strategy", Simon&Schuster, 1998.

should be well understood. It is aimed to develop an understanding of the reasons of alliances, major groups and recent takeover and merger stories.

Within a decade, fewer than 10 airline families, groups of airlines linked by a variety of ties from ownership to marketing agreements and franchises, will dominate air transport markets.

The reason for the aviation industry is the fact that rules that forbid foreign takeovers and deny foreign airlines the freedom to operate within other countries' domestic markets are indeed a serious obstacle to the industry's efficient operation.

At the most basic level, an alliance may be simply a joint marketing deal known as code-sharing, in which two airlines put both their identification codes on a flight and they both sell it, even though only one operates it. This also allows the allied pair to label two flights they operate separately as if they were a through flight, automatically taking it towards the top of the computer-reservation-systems list, which always favours direct flights. [245]

The next step up from simple code-sharing is block-booking on each other's flights, which means each airline has a certain number of seats to sell on its partner's flights. After that comes joint marketing of the two airlines' network routes and sharing of frequent-flier schemes. In the closest form of alliance, a pair of airlines, such as KLM and Northwest--the best example at present, completely integrates their business. The next step up from this would be a complete merger.

Sitting above these bilateral arrangements are the grand alliances that gather whole groups of airlines under one umbrella. The biggest of these is the Star group, which brings together United Airlines, Scandinavia's SAS, Lufthansa, Singapore Airlines and nine smaller partners, and accounts for over 20% of world air traffic. Next comes the oneworld grouping around AA, BA and Hong Kong's Cathay Pacific, with about 16% of traffic. The other two big alliances are Skyteam (Air France and Delta) and Wings, essentially the Northwest-

[245] Economist,"Huddling Together", Vol.358, Issue 8212, 2001.

KLM pairing.[246] Revenue Passenger Kilometers of major alliances are available in Table 2.2.

The key distinction is between alliances that are purely commercial and those that are more strategic is that a strategic alliance is one where the partners co-mingle their assets in order to pursue a single or joint set of business objectives. Such assets may be terminal facilities, maintenance bases or aircraft. Many of the big airlines' franchise deals with smaller feeder carriers are strategic, despite the difference in size, whereas code-sharing, block-booking or frequent-flier-sharing deals are essentially marketing arrangements.

Alliances give airline firms network scale, and network scale has become more important to customers as business has gone global.[247] For the passengers, the benefits of alliances are the chance to earn frequent-flier benefits across a wider network; smoother transfers to a wider range of destinations; and access to premium lounges at transfer airports. In some circumstances, alliances may even bring down fares.

For a long time, the worst thing about alliances was the opacity of code-sharing. Passengers would book on one airline, only to find they were flying on another. A few years ago a passenger might have bought a ticket from London via Paris to Seoul in South Korea, thinking he would be flying Air France. Instead he could have ended up on Korean Air, which at that time had a dreadful safety record, causing great embarrassment to its alliance partners. Most airlines are resigned to working within alliances, even though they may have trouble maintaining consistent service quality: the big ones account for nearly 60% of all travel.[248]

Another issue is the alliances between US and EU airlines. America refuses foreigners to operate services or own local airlines. So Britain refuses to allow more American airlines into Heathrow airport, which America considers a precondition for any open-skies agreement.

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[246] F. Captain and R. Sickles,"Competition and Market Power in the European Airline Industry: 1976-90", Managerial and Decision Economics, Vol.18, No.3, 1997.
[247] Association of European Airlines, Yearbook 2005, 2005.
[248] W. Owen,"Transportation Economic Development", American economic Association, 2001.

Table 2.2 Revenue Passenger Kilometers of Alliances, 2000

ALLIANCE	% OF TOTAL
Star Alliance	21.3
Oneworld	16.4
Skyteam	9.5
Wings	6.4
Qualiflyer	3.6
Other	42.9
TOTAL	2.8trn

That ten-year stand-off is now holding up a wider free-trade deal, the transatlantic common aviation area; and without that, there can be no widespread relaxation of ownership rules. So airlines are stuck with alliances instead of the mergers or takeovers they would prefer. That, in turn, holds back innovation in the airline business, because alliances are full of committees and there is no single management to drive things forward.

If two pending mergers in America are allowed through, the trade stand-off might move closer to a resolution. The resulting groups would feel more capable of withstanding any foreign competition they might encounter. In reality, such competition may turn out less daunting than feared, because the big American airlines tend to be more efficient than the European ones. It seems, therefore, that the Americans are blocking progress in an area that is important to them for what may not be very good reasons. It may turn out that foreign competition will do little harm to either American airlines or airline jobs. As soon as the Americans begin to understand this, reform will start to look possible, and aviation will begin to join the globalised world it has done so much to create.[249]

A pair of landmark decisions by Europe's highest court will limit the scope of governments within the European Union to block mergers and protect privatized companies from hostile takeovers, and perhaps facilitate future consolidation within the European aerospace and defense industry. But the full effect of the changes may not be known until the court

[249] Economist, "Flight of Fancy", Vol.358, Issue 8212, 2001.

renders a judgment on a suit filed by General Electric and Honeywell to appeal a European Commission ruling barring a merger of the two companies.

The European Court of Justice struck down a 1999 EC decision that had prevented U.K. tour/charter operator Airtours from taking over First Choice.Specifically, the court said the EC had not demonstrated that the merger would allow the leading companies in the sector to collude to set prices; that the companies could put pressure on competitors to maintain those prices; and that smaller rivals would be unable to react. The result would be to make EC merger pronouncements more predictable, and perhaps align European rules more closely with policy elsewhere, particularly in the U.S., which decides merger cases mainly on the basis of efficiency and consumer protection arguments, rather than abuse of market position.[250]

The first sector most likely to be affected in the short term is Europe's leisure travel industry, particularly in the U.K., which has been reeling from the effects of Sept. 11. Subsequent to the judgment against Airtours, since renamed MyTravel, and First Choice, their primary U.K. rivals, Thomson/ Britannia and Thomas Cook/ JVC, were acquired by German travel giants Preussag and C&N/Lufthansa, leaving their competitors isolated on the European scene.[251]

Consolidation could also be facilitated by another European Court of Justice ruling on June 4. That judgment barred certain laws granting governments so-called golden shares that can be used to block undesirable deals or special regulations limiting foreign shareholdings, on the grounds that they violate principles of free movement of capital within the EU. The court said golden shares, which were initially put in place to allow governments to keep control of partially privatized companies, are justified only where governments can prove overwhelming general or national interest, and even then only provided they are based on clear criteria, are open to court review and cannot be attained by less restrictive means

[250] M. Taverna, "European Clock Reset on Mergers, Takeovers", Aviation Week & Space Technology, Vol. 156, Issue 24, 2002.
[251] Aviation Week & Space Technology,"World News Roundup", Vol.155, Issue 4,2001.

2.3.2.3 Transatlantic Aviation Industry (US vs EU)

There is no doubt that American and European companies are considered as the leaders of the World Aviation Industry. However much the status of the American companies as the leader of the market goes on the competition level between these giant companies is very high. As a natural consequence of this competition, the strategies of the countries in the mutual relations are being formed in this direction. Countries are endeavouring to form the arrangements related to airspaces and agreements in the hope of ensuring advantage to their own companies in this competition. In this section, the emphasis is given on the competition between the European Union and America and their approach for their mutual relations in the direction of their own strategies.

The understanding of the relation of the union with its most important opponent has got a vital importance in order that one can have an opinion in the politics and condition of the general atmosphere.

For an industry that collectively lost $15 billion in the first few years of the 1990s, the past five years have brought a welcome change. The net profits of all scheduled airlines worldwide rose from $4.5 billion in 1995, when the boom began, to $8.5 billion two years later. Although in the past few years profits have been dented by the knock-on effects of the Asian crisis and the tripling of oil prices, they remain substantial. However, the airlines have to work harder and harder for them. The average consumer is paying 70% less per passenger-mile in real terms than 20 years ago, and revenue per seat is declining by an average of 2% a year.[252]

Consumer pressure in response to gridlocked skies is only one force for change in the air-travel industry. Equally important are the parallel trends of privatization and liberalisation, which are proving unstoppable. In America airlines have always been private, but elsewhere one national flag carrier after another is passing from government ownership into the private sector. The 70-odd airlines in which governments still have a majority stake will

[252] Economist, "Sky is the Limit", Vol. 358, Issue 635, 2001.

gradually be sold off. In the past few years the biggest wave of privatization has been in Europe. National carriers such as Germany's Lufthansa, Air France and Spain's Iberia have all been opened up to private capital, following the example of British Airways, which was sold off in 1987.

As governments are relieved of the burden of financing the investments of these often loss-making concerns, they become less anxious to protect them with rigid bilateral air-traffic agreements. This has already led to liberalisation in Europe, some 20 years after America, and is progressively opening up other international routes. The combination of privatization and liberalisation has created a new force for change. Airlines are no longer just chasing increased revenues or market share. Shareholder value is increasingly seen as the key performance driver. In other words, airlines have joined the rest of the business world.[253]

The number and shape of such alliances will be governed by another force for change, the consolidation of the industry that is now under way in America. As America scales down its Big Six list of top airlines, the world is likely to end up with three or four big alliance groupings. This may look like a worrying return to the oligarchy in the airline industry that prevailed in America before deregulation in 1978. But alongside the mainstream carriers and their alliance partners now fly the low-cost carriers, such as Southwest Airlines and Jet Blue in America, and EasyJet and Ryanair in Europe. They offer an alternative model of air traffic, short-haul, point-to-point flights--which has been so successful that it is now exerting further pressure on the mainstream carriers to shape up. Southwest and Ryanair have the highest margins and returns on assets of all the airlines.[254]

In Chicago Convention, nations identified aviation with national security; so they went for a regime based on national ownership and a system of designated flag carriers. Their operations would be governed by bilateral air-service agreements that would regulate which airlines flew where, when, and at what fares. Technical and safety matters would be taken care of by a new body, the International Civil Aviation Organisation (ICAO), part of the

[253] D. Carney and W. Echikson,"Europe: A Different Take on Antitrust", Business Week, Issue 3738, 2001
[254] Association of European Airlines, Towards an Efficient European Air Transport System, 2003.

United Nations. The result was a highly regulated industry, but at least it worked. Aircraft became more reliable and safer, especially after jet engines came into widespread use with the Boeing 707. Passengers could buy one ticket that was valid for different legs of a journey on different airlines. This interlining was made possible because airlines could pool revenue, with the notable exception of routes to and from America and discuss fares so that they could agree on the value of each part of the journey.[255]

Unfortunately this system, organised under the control of the International Air Transport Association (IATA), also encouraged collusion on fares, which tended to be set behind the potted palms at IATA conferences rather than by the free play of market forces.

In America in the late 1970s President Carter's administration pushed for deregulation in the internal market, in response to the growing consumerism of the time. Hundreds of small start-up airlines rolled down the tarmac, most of them to disappear without a trace. The most significant survivor was Southwest, which had been operating only in Texas until the deregulation. Europe took 15 years to follow American deregulation, but given that most European airlines were still state-owned when the process began there in 1993, its progress has been remarkable. Since the mid-1990s airlines have been able to fly virtually anywhere they want to within the European Union. Airlines from one EU country, such as British Airways or KLM, are also free to set up in another--as indeed both these carriers have done.[256]

In the early 1990s the Americans launched a rolling programme to create open skies with as many countries as would agree to liberalise their traditional bilateral air treaties with the United States. The basic template was to allow any airline in each of the countries to fly between the two countries with minimal restrictions. Routes, frequencies, fares and schedules were all up to the airlines' commercial judgment. In the open-skies deals with Germany and the Netherlands, the Americans even conferred antitrust immunity on the pooling of revenues, schedules and fares between airlines within an alliance. In all, some 40

[255] Economist,"Opening Wider", Vol.358, Issue 8212, 2001.
[256] AEA Policy Statement, EU External Aviation Relations, 1998.

such deals were struck around the world, and they undoubtedly prised open international aviation.[257]

The Americans also had another purpose in mind, to promote the interests of their own carriers. All the deals were between America, a country that accounts for over a third of the world aviation market, and one with a much smaller share and usually only one international airline. The main bone of contention is the right to pick up traffic in the destination country and either fly it on to another destination within that country, known as cabotage, or to a third country, fifth freedom.

While US carriers can fly from any airport in the United States to a wide range of airports in the EU, European airlines can only operate to the United States from their own country. Consequently they cannot exploit fully the whole EU market of 360m passengers. In addition; US carriers obtained and in many cases used extensive (fifth freedom) rights between European points which are now essentially domestic sectors within the European Union. Yet European airlines cannot enjoy the equivalent rights to serve city pairs in the United States. [258]

In other words, the mighty United States has picked off European markets one by one while preventing foreigners from owning airlines in America and stopping them from picking up passengers at more than one American city. The European Commission has launched legal proceedings against the eight open-skies deals America has with EU countries, on the ground that they are against EU single-market rules.

The European governments have refused to delegate negotiating powers for aviation to the European Commission. However, the European airlines have suddenly come round to favouring a deal with America, code-named the TCAA (transatlantic common aviation area). If a TCAA ever comes about, it will liberalise air travel between the world's two

[257] K. Zbidi,"The Impact of Total Libaralization of Domestic Air Transport Transport on the Social Welfare and on the Dynamic Competition: Comparison Between United States and the European Union",2003.
[258] Economist,"Opening Wider", Vol.358, Issue 8212, 2001.

biggest regional markets. It will also encourage Asia, which plans to move swiftly towards regional free trade in aviation.[259]

The big obstacle to a TCAA is a long-simmering row between those two champions of free trade, America and Britain. As things stand, only two American airlines, United and American, are allowed to fly into London's Heathrow; the rest must use Gatwick or provincial airports. By contrast, British Airways can fly to two dozen American cities. This imbalance causes American airlines huge irritation. But the British will not loosen up crowded Heathrow unless America allows British airlines to own carriers there, where at present they can hold only a quarter of voting shares, or fly people around America on the way to and from Britain.[260]

This stand-off has been going on for nearly ten years, and has prevented an alliance between BA and AA from graduating to a virtual merger. Competition authorities on both sides of the Atlantic were concerned that the two airlines together would have a virtual monopoly on several key transatlantic routes.

Mainstream airlines are frequently accused of dropping prices and flooding markets with capacity when a low-cost new entrant comes along. Once the newcomer has retreated, capacity drops and fares rise again. America's Justice Department still has a case outstanding against American Airlines for doing this at Dallas to crush a start-up called Vanguard Airlines. American Airlines claims this was just normal competitive behaviour. Apologists for the big airlines say the real reason why so many start-up airlines fail is that they lack sufficient finance to stay the course.[261]

But foreigners are not only prohibited from owning airlines in America; they are not allowed to operate any services either. BA may fly international services into 25 American airports, but it cannot pick up extra passengers at to fill up emptying seats before going on to Los Angeles. American carriers, on the other hand, are free to do this within the

[259] European Policy Paper, Transatlantic Air Transport, 1999.
[260] Transatlantic Aviation Forum, The Future of EU-US Aviation Relations: Issues and Implications, M. Staniland, 2000.
[261] Economist,"Let Fly",Vol.358,Issue 8212, 2001.

European Union. America's restrictions go back to the Jones act of 1920, which limited coastal shipping to vessels built, owned and crewed by Americans. This was to promote a well-equipped and modern merchant marine for use in the nation's defense and for promoting commerce.[262]

Nor is it only foreigners who are shut out of American aviation. The networks and the airports also discriminate against new entrants, certainly at big airports, where most of the traffic is concentrated. In touting their merger proposals, the bosses of United and American Airlines like to talk about network economics.There are also more down-to-earth ways in which access to the airline networks could be improved, if only the will were there. Part of the problem is that most American airports are owned by local authorities, which are more interested in maximising short-term revenue than in promoting competition.

But the main block to progress is the commercial relationship between the airlines and the local authorities. It is clear that America's infrastructure has not kept pace with the growth of air travel, and that it will not be able to handle the doubling in traffic expected over the next ten years. What is less well understood is the role of the airlines in blocking expansion that would create more capacity and let in competing airlines.[263] They can be called as major investors in decisions affecting an airport's future because they underwrite investment in developing gates and facilities.The weaknesses of America's aviation system, then, lie in a protected market, incomplete deregulation and over-reliance on the public sector for the provision of infrastructure.

2.3.2.4 The Impact of September 11th on the European Air Transport Industry

September the 11th terrorist attacks which took place in the USA have too much impact on the whole world aviation transport. As in both short and mid term European Union Aviation transport has been drastically affected on this issue, this attack has had too much impact even in the long term. The European Airline companies which have already had trouble in terms of profitability have had many difficulties due to this attack. As a

[262] Airport Council International Report, Concerns over Future of European Transport Policy, 2002.
[263] Airports Council International Report, The Social and Economic Impact of Airports in Europe, 2004.

consequence of this important crisis even eminent airline companies such as Sabena and Swissair couldn't overcome this period and went bankrupt. In reply to this condition, some precautions were taken by aviation industry and governments but these measures didn't prove sufficient thoroughly.

The importance of security in aviation sector has extremely increased and a great number of airports and airlines have been reconstructed. Here, this event which led to many essential changes has been analysed under a different heading in order that the modern history of the European Union Airline Industry is thoroughly understood. In this section, first of all, the dimension of the fact that the demand has decreased on the impacts airline traffic ahs been examined. Then, the precautions taken by airline industry and governments are discussed. Then how the profitability of the airline companies have been affected by this event is analysed. Finally, the bankruptcy of the two eminent airlines of Europe, Sabena and Swissair has been touched upon.

The full service scheduled airline sector had experienced a difficult year even before the events of September 11th. AEA airlines saw first half year losses increase by almost half compared to the previous year. Much of this poor financial performance has been attributed to the slowdown in the global economy experienced in the first half of 2001. Financial results from other air transport sectors were healthier. In particular, the low cost sector continued to go from strength to strength, with profits growing by over 150% versus the first half of 2000.

2.3.2.4.1 Impact on Traffic

The terrorist attacks in the USA caused a number of short and medium term impacts on the European aviation industry. First of all, US airspace was closed in the immediate aftermath of the attacks, and was not opened for four days. During this period, no flights from Europe-USA could operate, leading to a loss of revenue for airlines and airports in Europe.

When flights resumed, there was a dramatic decrease in demand. This was most severe on North Atlantic routes but was significant across all types of routes. The only market segment that did not appear to be badly hit was the low cost sector.

Traffic levels declined markedly in September 2001, which contained 19 days of post September 11th performance.Volumes at European full service airlines fell by 12% compared to September the previous year. The situation worsened in October and November before recovering slightly in December.

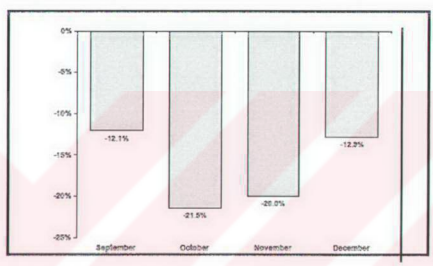

Figure 2. 30 Full Service European Airlines RPKs (September to December 2001 vs 2000)[264]

2.3.2.4.2 Action Taken by the Aviation Industry and European Government

The airline industry response to the crisis facing them post September 11th was centred on withdrawing aircraft from service, cutting staff numbers and renegotiating contracts with suppliers. There were also a number of actions taken to maximize cash reserves, such as deferring investments and sale of non core businesses. Accurate figures are difficult to obtain, but it is estimated that European countries withdrew around 130 aircraft from service, which equates 6% of the aircraft fleet. The North Atlantic market was the main focus for airline cut backs. By November 2001, around 140 daily services, operated by both US and European airlines, had been cut from planned levels (approaching 20% of all North Atlantic frequencies). In the months following September 11th, the European Union's

[264] DG Tren Final Report, Analysis of the European Air Transport Industry 2001, 2003.

surviving flag carriers announced job cuts of approximately 25,000 employees. Air France and Finnair were notable as the only major carriers who did not announce job losses.[265]

There were various forms of support for the aviation industry from European states and the European Commission. These included a mix of financial and other measures. The European Commission agreed to allow EU member states to provide the following forms of financial assistance:

- Provision of last resort insurance following the withdrawal of cover by commercial insurance companies, including an allowance for some short term waiving of insurance premium charges. This scheme was initially approved for one month but was subsequently extended.

- Compensation to airlines for the four days that US Airspace was closed, subject to complying with strict criteria as to how the compensation amount was to be calculated.

In addition to the financial measures, the European Commission agreed to calls by major airlines to extend to one year the period that slots could be unused before being reallocated. This move was opposed by some low cost carriers looking for new slots. Although the above measures were agreed by the Commission, other forms of state aid were firmly opposed. The European Commission expressed their view that many of the airlines facing financial difficulties were already in trouble prior to September 11th. Rather than rescuing failing airlines, consolidation in the sector was to be encouraged.

2.3.2.4.3 Impact on Profitability

Most significant effect of this tragic event is experienced in terms of profitability. The latter half of 2001 saw some catastrophic financial results from Europe's full service scheduled airline sector. The third quarter of 2001 contained only 19 days of post September 11th performance. Nevertheless, in autumn, European airlines made losses of US$234m. This

[265] Global Aviation Security Group, Industry Positions on Security Issues, 2004.

compared to a US$857m profit in autumn 2000, a decline of US$1.1 billion. The results for the final quarter were even worse. European airlines lost a record US$1.4bn, almost five times the loss recorded in the final quarter of 2000. The charter sector suffered vastly reduced financial returns post September 11th. There was a massive decline in profits in the second half year for the sample of companies examined. [266]

Airport groups also saw a decline in profitability in the latter half of 2001 (compared to equivalent period in 2000). However, while the drop in profitability was marked, it was not on the same scale as the declines suffered by both the full service scheduled and charter sectors.

The most remarkable aspect of the 2nd half year results was the increase in profitability posted by low cost carriers (Figure 2.31). Combined profits for the carriers sampled increased by a factor of six compared to the equivalent period in 2000. The low cost sector almost appeared to thrive on the wider difficulties in the industry.

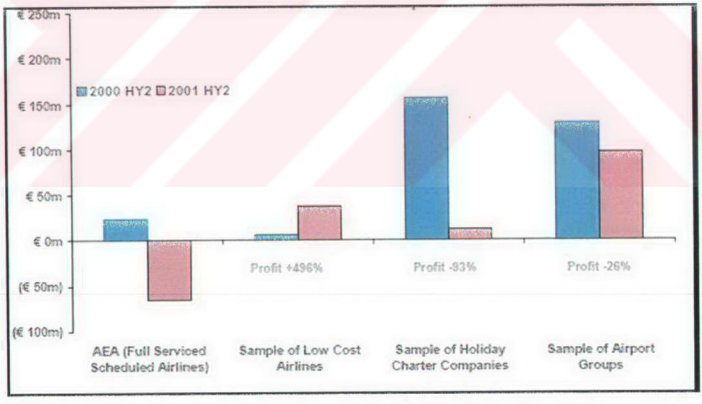

Figure 2. 31 European Aviation Profitability in Second Half of 2001[267]

[266] K. Neumeister,"The Impact of 11 September on the Air Transport Industry", AEA Report, 2001.
[267] DG Tren Final Report, Analysis of the European Air Transport Industry 2001, 2003.

2.3.2.4.4 Example Case: Collapse of Swissair and Sabena Airlines

One of the most important events showing the importance of September 11th is the collapse of two major airlines. High impact on the profitability has caused two airlines to collapse, that were already in a crisis. Swissair and Sabena that were in financial crisis for most of 2001 collapsed shortly after September 11th. These collapses were the most high profile bankruptcies in European aviation history.

Swissair Group had embarked on an ambitious programme to add scale through acquisition of 2nd tier airlines. To this end, stakes in Sabena, LOT Polish Airlines and French airlines AOM, Air Littoral and Air Liberte were purchased. However, amidst mounting financial difficulties, this strategy was abandoned at the end of 2000. The group then spent much of 2001 trying to exit their French and Belgium investments that were draining cash resources. Sabena, a chronically loss making airline for much of its history, also faced cash flow problems in 2001. The airline struggled to service debt incurred after earlier rapid expansion.[268]

The severe downturn post September 11th exacerbated already fragile financial positions at both airlines, and collapse followed shortly afterwards. In both cases, the regional subsidiaries were salvaged and took on some of the flying that the parent had previously carried out. In this way, both Belgium and Switzerland retained "flag" carriers despite the bankruptcy of Sabena and Swissair.

2.3.2.5 Developments and Trends in European Aviation Industry

After the politic and economic status of the aviation sector is understood in the previous sections, the latest innovations in the aviation sector, how these innovations form the sector in terms of economy and politics and the latest trends which come into existence in the direction of these innovations will be analysed. The analysis in this section has been prepared based on the data of 2003.This stems from the fact that there is no detailed new

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[268] Policy Statement by European Regions Association, 2001.

financial data related to the sector. But the newest events which form the sector such as September the 11th and SARS crisis could be taken into consideration as study. Thus, the analysis and evaluations can be regarded nearly valid for contemporary conditions. This section is devoted to the traffic analysis which will facilitate the understanding of the demand in the market. The traffic analysis is observed in two parts, the first as the countries in the EU the latter as different aviation sectors. Then the improvements on three main sectors of airline transport which are airline, airport and cargo are discussed. Then, the profits acquired by airlines and the fare trends which change in this direction is observed.

2.3.2.5.1 Traffic Trends

In order to understand the trends of the demand in airline market, one of the major indicators is the traffic trend. Thus, traffic trends are analyzed here to establish the recent situation of the market. Here, the analysis is conducted in two categories. One is the total passengers carried by regions and countries and the other one is according to the business type of the airline. Total aviation global output grew only marginally in 2003; the growth rate fell even from the modest rate posted in 2002. While scheduled traffic remained flat, there was some growth in charter passengers and freight/mail. World GDP growth increased; however, unusually, there was no corresponding increase in the growth rate of world international passenger traffic. The number of European scheduled passengers (IATA carriers) grew by 2.7% in 2003, though shorter average stage lengths meant that Revenue Passenger KM only improved by 1.0%. [269]

The fastest growing route area was Europe to Central and South America, followed by intra-Europe international traffic. In contrast, Europe-Asia Pacific passengers declined by 5% year on year as a result of the SARS crisis (Figure 2.32).

Monthly growth trends for 2003 show a marked traffic decline in early spring as a result of the Iraq War. While most route areas from Europe recovered in late spring following the

[269] Available on site:
http://www.aea.be/AEAWebsite/Presentation_Tier/Pr_GroupMenuItem.aspx?NodeID=rootMenu402

end of the war, Europe-Far East traffic experienced a much greater decline, caused by the onset of the SARS crisis. Growth eventually returned to this market in the autumn.[270]

An analysis of scheduled capacity shows continued recovery in all destination regions following on from the 2001 downturn.By the end of 2003, monthly capacity to Asia had grown by 4.3% versus the same period the previous year.

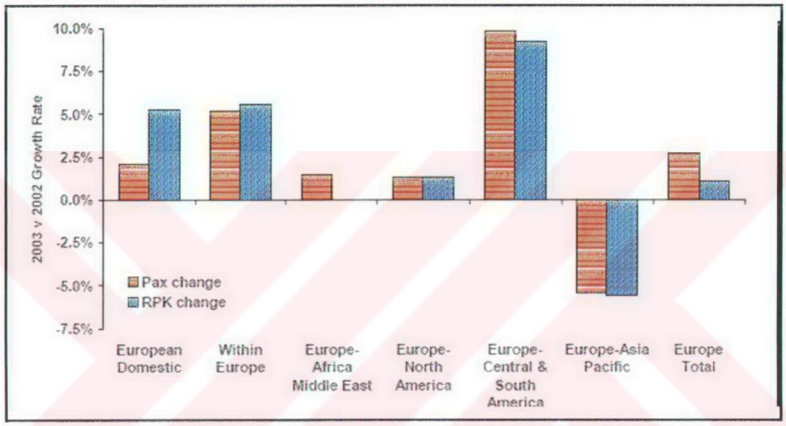

Figure 2. 32 European Scheduled Passenger Growth by Region[271]

This was despite the dramatic fall in traffic earlier in 2003, following the SARS epidemic. The SARS epidemic did not appear to have any obvious long lasting impacts on the growth of the Europe-Asia market. The mature markets of European Union, Europe and North America, had not fully recovered from the 2001 traffic downturn. Compared to January 2001, capacity on the North Atlantic was still 10.2% lower in January 2004. Over the same time period the European Union - Europe market posted capacity growth of just 0.6%. [272]

At the mid point of 2003, capacity from most European Union countries had increased versus the previous year. Particularly strong growth was experienced in the UK, Spanish

[270] Association of European Airlines, Monthly Traffic Monitor, 2003.
[271] DG Tren Final Report, Analysis of the European Air Transport Industry 2003, 2005.
[272] Association of European Airlines, Annual Traffic Monitor 2003, 2004.

and Italian markets. Continued restructuring by SAS explains the significant capacity cuts in Sweden and Denmark over the same period. By the end of the year, though, capacity had begun to increase again.

Belgium, Netherlands and France all saw cuts in capacity both at the mid-point and at the end of 2003. French capacity decline was mainly experienced in the domestic sector with the demise of various regional carriers (Figure 2.33).

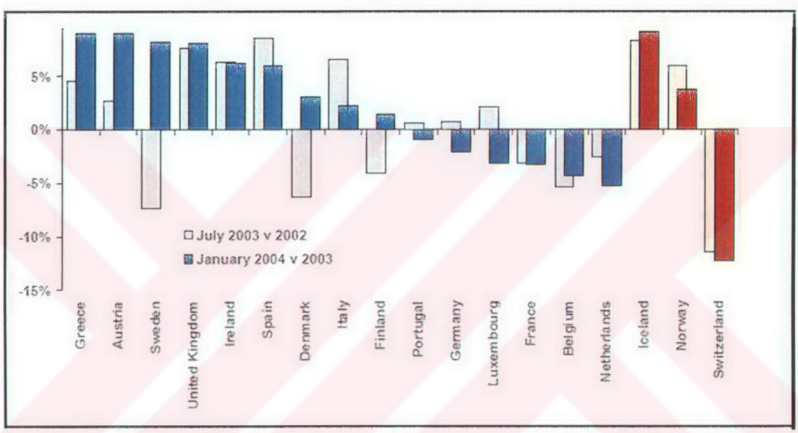

Figure 2. 33 Change in Capacity from EU, Switzerland, Norway & Iceland[273]

There was a large growth in the number of routes served within the European Union, a net 108 new city pairs were served in July 2003 v July 2002. This comprised of 210 new city pairs and 102 city pairs being terminated. Furthermore, there was growth for the first time in three years in the number of intercontinental city pairs served from Europe. Within Europe, the rapid growth in services from European Union Accession states was very

[273] DG Tren Final Report, Analysis of the European Air Transport Industry 2003, 2005.

noticeable. By January 2004, the short haul capacity from these states was 18% higher than a year earlier. [274]

Once more, there was great diversity in traffic performance achieved by the different sub-sectors of the European aviation industry.

Low cost airlines showed the strongest growth. Between them, the seven established airlines grew passenger numbers from 45m in 2002 to 60m in 2003.[275] Furthermore, new low cost airlines continued to emerge whilst some existing airlines switched to the low cost business model. Therefore, growth for the sector as a whole exceeded the 32% growth achieved by the seven established players.

By July 2003, low cost airlines accounted for more than 20% of intra-EU scheduled capacity. The market share had reached 40% for services touching the UK and 11% of intra-EU capacity not touching the UK.

Regional airlines also posted strong growth, though not on the same scale as low cost airlines. In contrast, passenger numbers at leading EU full service airlines continued to decline. On a like for like basis, passenger traffic fell by 0.5% on 2002 levels. The net growth in intra-EU scheduled capacity between July 2002 and July 2003 (+8%) was entirely attributable to the low cost sector. The rapid capacity expansion of this sector (+88%) outweighed the drop from the rest of the airline industry (-7%). The number of charter passengers also remained in decline. Finally, European Union airports experienced a 4% traffic rise versus 2002.[276]

[274] Association of European Airlines, Consumer Report 2003, 2005.
[275] Available on site:
http://www.aea.be/AEAWebsite/Presentation_Tier/Pr_GroupMenuItem.aspx?NodeID=rootMenu402
[276] Association of European Airlines, Summary of Traffic and Airline Results 2003, 2004.

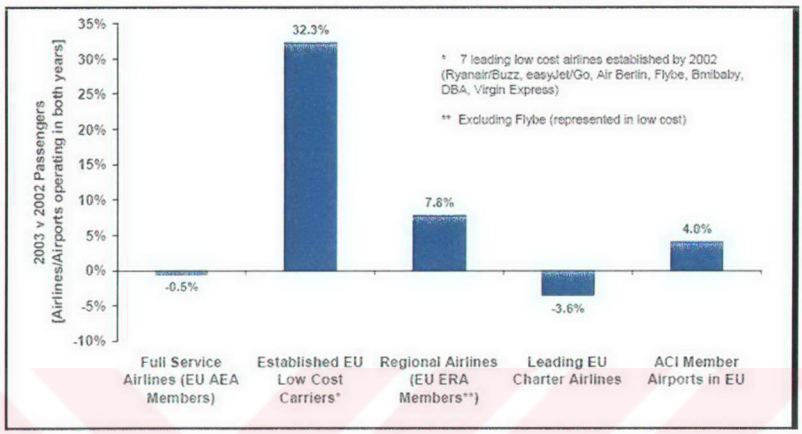

Figure 2.34 European Passenger Traffic Growth by Sector[277]

2.3.2.5.2 Developments in the European Air Transportation Sector

2.3.2.5.2.1 Airline sector

In this section, in the light of the latest developments the final condition where the sector has reached is explained. The airlines are analysed under three main headings so that the final condition of the sector is better understood. These are full service airlines, low cost airlines and tour operators.

Full Service Airlines: There was mixed traffic performance by full service airlines in 2003. After two years of strong decline, there was some recovery in the long haul traffic segment. Nevertheless, the number of short and medium haul passengers fell. Losses for European airlines increased again in 2003, the 5th successive year of losses. The US$1.48 billion loss was half the loss recorded in 2001 but 70% worse than 2002 performance.[278] The majority of full service European Union airlines grew passenger numbers in 2003. Leading the way

[277] DG Tren Final Report, Analysis of the European Air Transport Industry 2003, 2005.
[278] ERA Airline Annual Statistics 2003, Statistics, European Regions Airlines Association Publications, 2005.

were non flag carriers, Air One, Air Europa, BMI British Midland, Hapag Lloyd and Spanair.

Aer Lingus posted the strongest growth of all the flag carriers, following its move to reposition itself as a low fares airline. It also recorded a net margin in excess of 5%. There were significant traffic declines for SAS and Olympic following airline restructuring. Finnair, KLM and Austrian also experienced traffic decreases. Financially, Lufthansa, Alitalia and SAS all recorded substantial losses in 2003, with performance versus 2002 worsening markedly.

Low Cost Airlines: 2003 continued the recent trend of very high traffic growth for the low cost sector. There was some slowdown in traffic growth at the existing low cost airlines, when compared to an exceptional 2002. By the end of the year, the incumbent airlines had added close to 20% additional capacity.

However, new entrants to the low cost sector ensured that the overall percentage traffic growth was similar to the previous year. These new entrants took the form of new airlines, low cost subsidiaries of existing airlines and legacy carriers switching to the low cost model. Such airlines included Air Berlin, FlyBe, Volareweb, Dba, Germania, Windjet and Jet2. The net impact of this growth was that the low cost sector accounted for 20% of all intra-EU scheduled capacity by July 2003. The profitability of the low cost sector deteriorated in 2003, as a result of greater competition within the sector and from full service carriers offering lower fares. Ryanair's profit margin fell for the first time in recent years, while easyJet recorded its worst result since 1999.

Tour Operators: 2003 was another difficult year for the tour operators. The continued competition for leisure traffic from the low cost sector contributed to some poor financial results. MyTravel Group experienced unprecedented levels of loss. Overall the company reported losses totalling UK £913m, equivalent to €1.3bn at the December 2003 exchange

rate. There were also financial difficulties at Thomas Cook, with a doubling of its reported loss in 2003.[279]

In traffic terms, after a poor 2002 there was some stabilisation for the charter sector in 2003. Excel Airways was the fastest growing charter airline, both in terms of percentage growth and additional passengers carried. In 2003, it added 400,000 passengers, a rise of almost 30%.[280]

The main airlines of leading tour operator airlines generally experienced traffic decline. The exception to this was First Choice, adding 350,000 passengers. Condor Flugdienst lost 800,000 passengers, while MyTravel recorded a traffic reduction of around 500,000 passengers.

2.3.2.5.2.2 Airport Sector Operations

One of the most important parts of the airline transport sector is doubtless the airports. So, the final point reached should also be known so that the latest point the aviation sector has arrived can be understood. Thus, the final point the airport enterprise has reached will be explained.

Airports in the EU countries returned to growth (+4.0%) after slight traffic losses in both 2001 and 2002. Yet again, London Stansted was the fastest growing of the major European airports, expanding by 17% versus 2002. Three Spanish airports also featured in the top 5 fastest growing major airports. In contrast, airports in Scandinavia struggled, with both Copenhagen and Stockholm Arlanda adversely impacted by SAS network rationalisation. Many of the smaller European airports recorded massive growth as a result of new bases being opened by low cost airlines. In particular, Gerona, Bergamo and Rome Ciampino expanded very rapidly in 2003. Financially, the European airport sector improved its performance in 2003, with net margin increasing from 6.4% to 8.0%.[281]

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[279] ICF Consulting Report, Overview of Europe's Aviation Industry: Structure and Competition, 2003.
[280] Association of European Airlines, Annual Traffic Monitor 2003, 2004.
[281] ERA Airport Annual Statistics 2003, Statistics, European Regions Airlines Association Publications, 2005.

In other developments, France postponed plans to build a third Paris Airport. In contrast, the United Kingdom published its Air Transport White Paper, setting out proposals for new runways at London Stansted, London Heathrow, Birmingham and potentially Edinburgh. Meanwhile, Germany decided to build the new Berlin Brandenburg airport through public funds after abandoning its proposed privatization.

2.3.2.5.2.3 Cargo Sector Politics

As human transport forms the general frame and politics of the aviation sector, the cargo sector hasn't been touched upon so much so far. But devoting some part of this section to the cargo sector, the basic players, their conditions and the latest developments are analysed so that the picture of the sector is thoroughly understood.

Global freight volumes continued to grow in 2003, increasing by 4% (Revenue Tonne KMs). This follows a 7% increase on 2002, which offset the 6% decline recorded during 2001.[282]

Europe's two main long haul cargo markets grew in 2003. After two years of significant contraction, tonnage from Europe to North America grew by 2.5%. The Europe-Asia market maintained its strong performance, with tonnage growing by 6.1% (slightly lower growth than in 2002). In contrast, intra-European RTKs fell by 1.2% versus 2002. Scheduled freight volume declined by 3.7% and mail by 6.7%. The "Express" sector, though, posted a small rise in RTKs (+1.9%). This continued the medium term trend of market share capture by the express sector.[283]

Of the leading European cargo airlines, Virgin Atlantic, Martinair, SAS Cargo and Cargolux were the fastest growing in 2003. Lufthansa Cargo, Alitalia and Air France all experienced volume declines in 2003.

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[282] Association of European Airlines, Summary of Traffic and Airline Results 2003, 2004.
[283] DG Tren Final Report, Analysis of the European Air Transport Industry 2003, 2005.

An analysis of cargo tonnage at EU airports shows overall growth of 3.2% in 2003, almost recovering to 2000 levels. The fastest growing airports were typically cargo specialist airports.

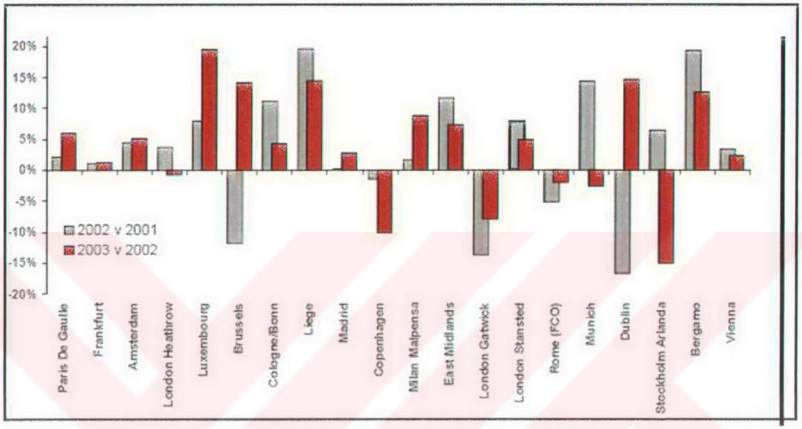

Figure 2.35 Cargo Volume Growth

2.3.2.5.3 Finacial Analysis

However much important the understanding of the demand in terms of the understanding of the position the sector is in; it is insufficient without taking into consideration the earnings the firms obtain from this condition. Thus, the financial condition of the firms will be analysed in the light of the latest developments. First of all, their net profit margins and then their total yields will be examined. And then the fare issue will be analysed taking into consideration the fact that the profitability of the fares such as the purchase capacity of the customers, the economy presented, premium and business change.

As with traffic performance, there was a wide discrepancy in financial returns for the various aviation sub-sectors.

Leading EU full service airlines once again fell into loss after a return to profitability in 2002. While low cost airline results continued to outperform other airline sub-sectors, there was a noticeable deterioration on 2002 performance.

The regional airlines which publish results improved profitability slightly in 2003, though net profit margins remained low. The financial results of tour operators continued to worsen, largely driven by a very poor year for MyTravel. Finally, financial returns at the EU's leading airport groups remained healthy, with a year on year increase recorded.

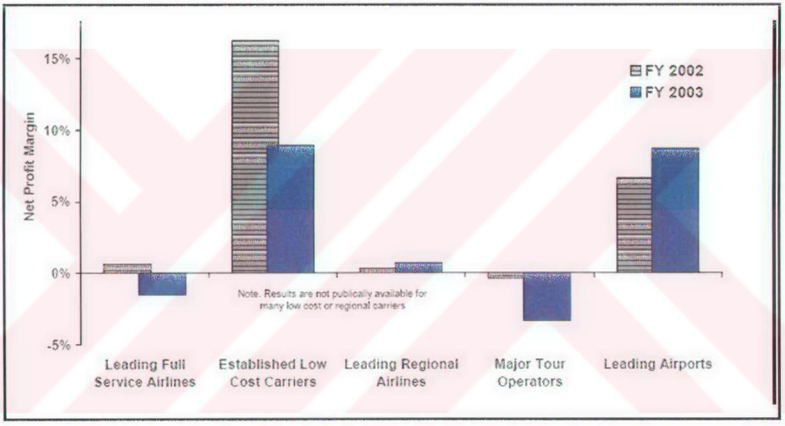

Figure 2. 36 Net Profit Margins for EU Aviation Companies[284]

2.3.2.5.3.1 Airline Yields

After analyzing market demand and net profit margin, now an airline yield, which is the sum of two, can be analyzed. In deed, it is the yield concept that drives firms to compete in the market. So it is vital to investigate recent airline yields to shape the market totally.

[284] DG Tren Final Report, Analysis of the European Air Transport Industry 2003, 2005.

In 2003, European carriers saw exceptionally high declines in yield across most route areas, surpassing the quite strong fall in yield experienced the previous year. In fact, a decline of 10.6% for the total scheduled market was the highest single year decline in the period of analysis (1991-2003).[285]

The declines in intra-European domestic (-8%) and intra-European international (-12%) yields were also the highest since 1991. Much of this decline can be attributed to the pricing response of European carriers to the continued growth of the low cost sector. North Atlantic yields also fell sharply for AEA carriers, with overall yield 13.5% down on 2002 levels. (Figure 2.37)

Ryanair continued to record the lowest yields of the low cost carriers who produce public accounts. In 2003/04, the average fare for Ryanair fell by 14% to €40. Since 2000/01, the average Ryanair fare has fallen from €53, an average decline of 9% per year.[286]

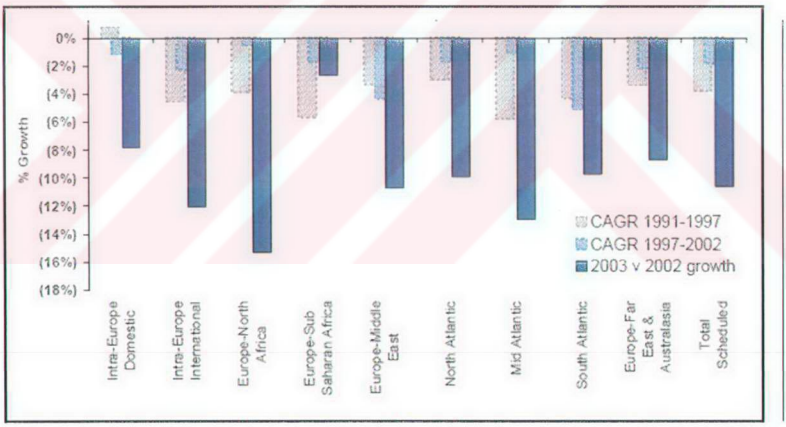

Figure 2. 37 Growth in Real Passenger Yield

[285] ERA Annual Results 1991-2003, Performance, European Regions Airlines Association Publications, 2005.
[286] Association of European Airlines, Yearbook 2005, 2005.

2.3.2.5.3.2 Fare Mix and Trends

Another issue which will help the financial situation of the airlines to be understood is the fare issue. The profitability the airlines obtain from various service alternatives such as economy, business the number of customers they gain, the way they do business will give us opinion about the situation of the airlines in the present and future. Thus, here the latest developments and innovations with regard to fare and trends are explained. With the exception of the North Atlantic routes, there was continued worsening of fare mix for full service airlines. The share of discounted economy tickets sold increased within Europe and from Europe to Asia (Figure 2.38).

The trends seen in 2003 continue the pattern established since 2000. The cumulative impact of a worsening of traffic mix is quite dramatic.

Within Western Europe, business class share fell (over the three years) from 28% to 21%. There was a shift instead to full economy and discounted economy.

The decline in traffic mix was even more noticeable for routes to Eastern and Central Europe. Business class share dropped by 6 percentage points and full economy by 4 percentage points.

A similar trend was seen on routes to the Asia Pacific region. In 2000, discounted economy accounted for a 40% share of all traffic, by 2003 this had risen to 53%. In contrast, the mix on the North Atlantic has remained relatively static. [287]

[287] ERA Annual Results 2003, Performance, European Regions Airlines Association Publications, 2005.

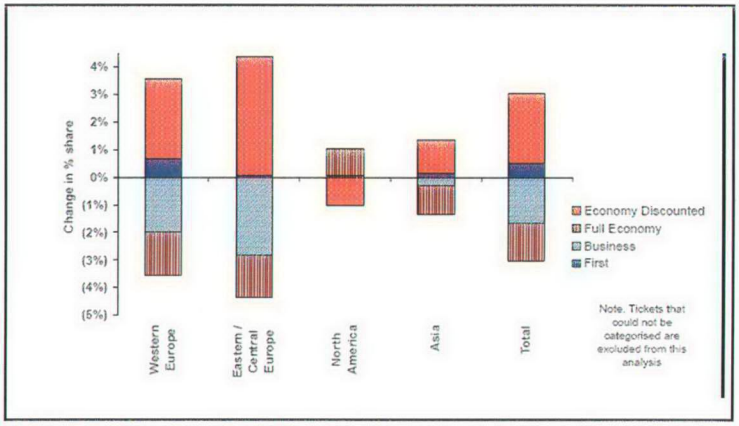

Figure 2. 38 Change in Fare Category Mix by Final Destination[288]

For most categories of fare, Western European average fare levels declined in 2003. A particularly large decrease was recorded in the unrestricted leisure economy fare category, especially for intra Europe (Figure 2.39).

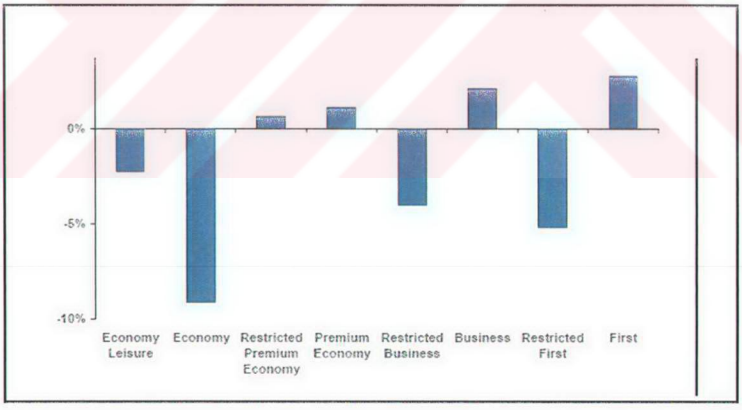

Figure 2. 39 Trends by Fare Type[289]

[288] DG Tren Final Report, Analysis of the European Air Transport Industry 2003, 2005.

On the North Atlantic market, average economy leisure fares declined markedly over the course of 2003.

At an individual country level, there were some notable fare declines, Finland (economy leisure), Norway (economy), France (restricted business), and Ireland (business).

American Express noted that airfares mostly held steady. Although the economic and geo-political outlook improved during 2003, this did not translate into significantly higher fares. American Express went on to comment that the high load factors achieved by European airlines helped to support yields during an extremely challenging year for the airline industry. During Q4 several carriers made further cuts in the commissions they pay to travel agents, citing the need to reduce costs in the face of aggressive competition.[290] No-frills carriers continued to drive pricing down in the cheaper fare classes, especially on services to Western Europe. In Q4, more of the traditional carriers introduced lower fares as a competitive response.

2.4 DEFENCE AND SPACE APPLICATIONS IN AEROSPACE INDUSTRY

Besides the manufacturing of aeroplanes and airlines, defence industry and space applications are one of the important practices of the aeronautics. Thus, in this part the condition of aviation in the defence and space sectors in the EU will be dealt with so that the aviation sector will be understood thoroughly. The manufacture of aeroplanes and the industry of airlines, which form the most important part of airline transportation, had been analysed in the third chapter. In order to understand the practices of space and defence which are the sub-branches of aviation sector better, it will be much more convenient to analyse it independently from the airline industry. So, the fourth chapter has completely been devoted to the defence and space side branches of aerospace sector in the European Union.

Firstly, for the better understanding of the relationship between the sector of airline

[289] DG Tren Final Report, Analysis of the European Air Transport Industry 2003, 2005.
[290] ERA Annual Results 2003, Performance, European Regions Airlines Association Publications, 2005.

transportation and the defence sector, what sorts of practices aviation has on defence and the latest trends in the world have been briefly mentioned. And then how the aviation in the defence sector has been formed from the history up to now is analysed. Following this part, bringing about the basic features specifying the sector, how the sector distinguishes from the other aviation practices and the other sectors are being made clear. And then the condition of the aeronautic defence industry is observed regarding the whole world because it is impossible to understand the condition in which the EU is in without understanding thoroughly the development in the world both in the historical and economical aspect. In this section, the eminent defence-orientated companies in the aviation sector have also been briefly touched on.

Following this analysis, the analysis of the EU starts. Having mentioned the condition of the sector in the political and economical aspect in general the analysis of the historical development of the sector starts. And then some organizations such as European Defence Agency and aerospace and defence industries association of Europe, which have a great role in the regulation of the airline sector have been briefly touched on. And then the condition of the sector in Europe is analysed in terms of both politics and strategies and finance in detail. In this part, both the conditions of the countries and the analysis of the place of the union in the world sector is being done. And also the most important consortium company of Europe has been emphasized in this section.

Part 4.3 has been devoted to the practices of space. Firstly, the relation between space and aviation, how important place the practices of space have in the aviation sector have been briefly explained. And then the practices of space in the aviation all over the world have been touched on. This sector which is especially under the control of the USA is observed from different aspects such as competition, market, programmes and politics. After this section, the analysis of the condition of the sector specifically in the EU starts. Civilian and military space practices are distinctly analysed. Finally, what kind of place the expanding EU has in the world and the consequences caused by this situation are explained.

2.4.1 DEFENCE SECTOR

Although the disarmament policy is popular in the last few decades it is the industry of defence which still forms one of the biggest markets of the world. In addition to this, when the superiority of aviation in the wars is taken into consideration, it will be understood that the defence – orientated practices of the aviation forms one of the greatest parts of the sector. Thus, the importance of aviation is indisputable in our modern defence industry. Despite this, when the great investments done by the countries on the defence industry are considered, it is considerably clear that practices of defence are important for the airline companies. The sector of defence which is considerably important in terms of aviation will be touched on in detail in this section and the status of the sector from history to nowadays in the world will be analysed.

Disarmament since the end of the Cold War in 1989-90 has led to major changes in the size and structure of defence industries. Moreover, it caused sharp declines in the defence budgets of NATO countries (Table 2.1). According to NATO, the gross defence spending of the 13 European members of NATO fell from a 1990 total of $186 billion (compared to US defence spending of $306 billion) in 1990 to $184 billion in 1997 (compared to US defence spending of $272 billion), with trends still downward. 9 Most NATO countries, except for Greece and Turkey, have experienced declining defence budgets and falls in the procurement of new military equipment, resulting in reductions in gross numbers of equipment buys and the extension of delivery schedules.

For example, the multinational Eurofighter and the French Rafale fighter will each enter front line service 10 years after the date originally envisaged when their development programmes began. However, defence sales are of varying importance to European companies. In 1996, for example, defence sales accounted for 72% of British Aerospace's revenue ($8.542 billion of $11.9 billion), 28% of Dassault's revenue ($620 million of $2.2 billion), and 20% of Aerospatiale's revenue ($1.94 billion of $9.32 billion). But the main threat to the viability of European defence companies is the decline in funds available for investment in new products to follow-on from those in production or verging on

production. National budgets are increasingly unable to fund the research and development (R&D) of modern weapon systems and aircraft or large production runs.

Yet without new R&D Europe will gradually lose the ability to produce competitive products as alternatives to American products. A striking example of this problem is the Future Large Aircraft (FLA) project to build a new military airlifter, stalled for five years because of a vicious R&D circle. European governments cannot afford to fund FLA development and production from their defence budgets, while the main European aerospace companies have been unwilling to fund the FLA because of the lack of firm commitments to buy the airlifter from European governments.[291]

Change has been characterised by downsizing, mergers and exits associated with job losses, plant closures and the search for new markets, including arms export markets. Technical change has also impacted on defense industries through creating requirements for new weapons (eg. unmanned combat air vehicles and the revolution in military affairs) and new forms of industrial organisation (eg. E-commerce and globalisation).

New forms of industrial organisation have emerged as defence companies have developed their prime contracting and systems integration capabilities and have changed from national to international companies. The major defence companies have both military and civil businesses, while some are specialist defense companies.

[291] Lungu, S., 2005, European Defense Market Integration: The Aerospace Sector in 1987-1999.

Table 2.3 The Decline in Defence Expenditure : 1985-1997

Country	1985 US$ (Current Prices)	1997 US$ (Current Prices)
US	367,711	272,955
UK	45,408	35,736
France	46,522	41,545
Germany	50,220	33,416
Italy	24,471	21,837
Spain	10,731	7,671

To be competitive, defence companies are following the example of the civil global corporations, seeking markets throughout the world and suppliers from overseas countries able to provide skills and components at least-cost. Global companies can achieve economies of scale and scope from supplying world markets rather than a small national market and they locate their various research and production activities in nations where costs are lowest. Defence industries have the economic characteristics of global industries, but traditionally, they have relied on their home market and sales to their national armed forces. The major civil aircraft companies have developed into global companies (eg. Airbus; Boeing); but globalisation is now affecting the major military aerospace and defence companies[292]

[292] Scherpenberg, J., 1997, "Transatlantic Competition and European Defence Industries: A New Look at the Trade-Defence Linkage", International Affairs 73, No. 1.

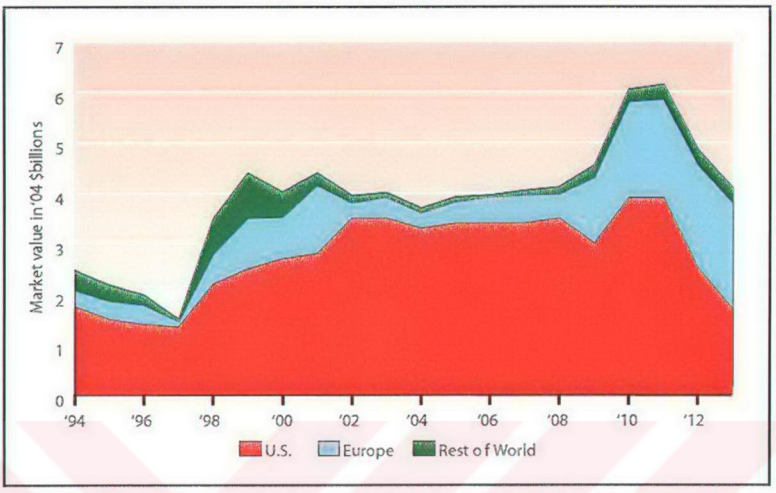

Figure 2. 40 World Military Transport Procurement Spending

2.4.1.1 History of Military Aviation

With the realization of mankind's dream of flying, it was inevitable that methods of flying would become part of wars. With the manufacture of the first war-plane in 1912, the methods of making war also drastically changed. In order to understand better the practices of defence which are most probably one of the most important reasons of the development of aviation, how aviation of defence has improved from history to nowadays will be handled in this section. So, the importance of aviation for the industry of defence will be understood better.

The first military aircraft competition was held in the UK in 1912. Of the half dozen contestants, the winner was the most powerful. Starting with army support and artillery spotting led to the fighter and air to air combat, then bombing behind enemy lines and the concept of strategic bombing to damage supply centres, armament factories, and even civilian populations. Biplanes were popular but triplanes made maneuverable fighters. Monoplanes were suspect in the UK because of some structural failures, but Dr Hugo

Junkers in Germany, with his all-metal corrugated structures, was ahead of his time. Engine powers increased the rotary engine giving way to radials and in-line types. The invention by Bramson to allow a machine gun to fire through the propeller disc was of enormous significance. There were struggles for the control of the new means of warfare between the army and the navy and those who saw an air force as an element of warfare in its own right. Hugh Trenchard, in the UK, originally in the Royal Flying Corps, created the independent Royal Air Force in 1918. He had to fight for a decade against the army, navy, the treasury, and politicians to maintain its integrity. The UK government set up the Royal Aircraft Factory at Farnborough to design and make all kinds of military aircraft, but eventually handed this task to a fast-growing industry and Farnborough became a research establishment. There were some lighter-than-aircraft, seaplanes, and early experiments with aircraft carriers. Longrange bombers of considerable size were employed on both sides: the German Mannesmann giant triplane had a span of 52 m.

Although all features of aircraft had progressed during the 4-year conflict, the designs were essentially of the same category. What was significantly changed was the existence of a national aeronautical culture with industries, subcontractors, government gencies for research, procurement and regulation, world-class air force, and hesitant beginnings of civil aviation. Military aviation then tended to decline as peace time budgets shrank with no obvious national threats in sight. However, one nonmilitary event became the main spur for technical development – the Schneider Trophy – originated by Jacques Schneider in 1913. This was held biannually for racing seaplanes. The first official world speed record of 21 m/s (47 miles/h) was set up by Glen Curtiss in 1909. By 1931, when the UK gained the Schneider Trophy outright, it had risen to 152 m/s (340.1 miles/h) with the Supermarine S6B powered by the Rolls-Royce R engine – soon after to be raised to 182 m/s (407.5 miles/h). This success was turned into the Spitfire fighter of WW2 by the same design team. One technical comparison, typical of the state of design of the day, is shown in the following table. During the Battle of Britain, Germany and Britain had to fight with aircraft already in squadrons at the outbreak of war. The hurricane started as a private venture by

the Hawker company and was its first monoplane and was slower than the Spitfire. The Messerschmitt was smaller and more powerful.[293]

Table 2.4 Performance Comparison of World-War II Fighters

Aircraft	Weight (kg)	Wing area (m^2)	Engine power (kW)	Speed (m/s)
Hurricane	2976	23.9	768	146
Spitfire	3048	22.5	794	159
Me 109	2722	17.2	1007	163

On this basis, the Me 109 would appear to be superior. However, performance i.e. speed, rate of climb, and power, is not the only criterion. To succeed in close combat using fixed guns, the fighter needs to turn at a high g without losing control. The Spitfire in a tight turn would begin to stall at the wing root, the pilot detecting a buffet warning; the ailerons keeping full roll control. However, the Messerschmitt stalled first at the wingtips so the ailerons lost control without warning. Aerial combats are determined by subtle issues such as this which transcend mere performance comparisons.

The USAF Boeing B-17 four-engined bomber was built before the war: the De Havilland Mosquito, although conceived before, was designed after the outbreak. It was realized that the fighter was a serious threat to the bomber reaching its target and the twin-engined Mosquito went for high speed with a crew of two. Its speed of 180 m/s could outstrip the fighters and yet it could reach Berlin with the same bomb load as a B-17. Another of its design achievements was its wooden construction to avoid the use of critical materials and activate another peacetime industry. The North American mustang also gained by having a specification drawn up after hostilities had begun. It had a far greater inboard fuel capacity

[293] Allen, J., 1956, "From Aviation to Astronautics", J.R. Aeronaut Soc., pp. 615-632.

which was increased with droppable external tanks and could escort the B-17s to Berlin in daylight raids. It finally destroyed the Luftwaffe.[294]

The gas turbine appeared nearly simultaneously to both contestants, but not in sufficient numbers to make a decisive contribution. The secret development of nuclear weapons and their deployment over Japan in 1945 revolutionized all warfare as it was later adapted for naval and military use. Gliders and airborne forces were employed by both sides for the first time. Large land vehicles and tanks could be parachuted from aircraft and low flying aircraft could snatch loads from the ground using extensible nylon tow ropes.[295]

The Convair B-36 of 1946 was the biggest military aircraft. Originally fitted with buried piston engines and pusher propellers, it was later fitted with four additional jet engines housed in two strutted pods under each outer wing. It was a major part of the cold war deterrent with a range of over 8000 km. Variants included the installation of a P-84 fighter mounted on a retractable trapeze beneath the bomb bay for fleet self-defence and the B-36N which carried a nuclear reactor – but only for environmental tests.[296]

The Boeing B-47 Stratojet, whose configuration (thin swept back wings and underwing podded jet engines) was decided in Wichita over a weekend, became the classic for half a century. All Boeing and Airbus transports followed suit. However, because the wings were thin, there was inadequate fuel and so a fleet of tankers was ordered, also from Boeing: eventually, the USAF was performing aerial refuelling operations every 3 min of every day.

The scaled up Boeing B-52 bombers continued the B-47's body-mounted main undercarriage with wing tip outriders. It is likely to be the first aircraft to remain operational for a century. When the UK jet engine development was under way in 1936, it was already appreciated that its high power–weight ratio made it possible to design an aircraft with powered lift. This quest culminated in the Hawker Siddeley Harrier V/STOL fighter for the RAF in 1969. By then 28 different designs employing propulsive lift had

[294] Allen, J., 2005, Aeronautics-1903, Aerospace-2003;?? 2103.
[295] Anon, Undated, The NASA Aeronautics Blueprint - a Tehnology Vision for Aviation.
[296] Allen, J., 1968, "Taking Ahead in Aeronautics", J. R Aeronaut.Soc.

flown, but only the Harrier went into multinational service. As all the engine thrust was vectored, there was no dead weight of shut down engines as in many designs.[297]

The remainder of the aircraft was conventional including the flight controls, which did not even require an auto pilot. Although primarily designed to hover, it was later able to Vector the Thrust in Forward Flight (VIFF) conferring impressive combat advantage and to revolutionize carrier-borne operations using a ski jump. Its descendent is the multinational JSF. A humble but necessary task is target practice either for fighter pilots or for anti-aircraft gunners. Target towing behind another aircraft is an easy role for retired or substandard types, but there were also radio-controlled unmanned target aircraft such as the RAF's Queen Bee (Tiger Moth) and Queen Wasp floatplane. The Australian Jindivik with an Armstrong Siddeley Viper turbojet has been in service for nearly half a century.

Surely, the most exceptional example of radical design is the Lockheed F-117 Stealth bomber. Its whole exterior is composed of flat panels to minimize radar reflections: engine intake and exhaust have special geometrical and surface treatments. No aerodynamicist would have advocated such a configuration. Northrop built and flew propeller- and jet-flying wings in the 1950s with mixed success, but the shape re-emerged in 1992 with the B2.

This stealthy very long-range bomber has unique control surfaces, including yaw control from split ailerons, but is very expensive, costing $450 million when launched for a production run of 200 soon reduced to less than fifty: the cost is now more like £2 billion apiece. Costs of military aircraft have been escalating since 1915 at 8 per cent per annum, as shown by data from the USA, the UK, and Sweden. This has made the planning of new systems uncertain and lengthened the time between new projects. It has also forced companies to amalgamate hence disrupting carefully evolved design and research teams. It

[297] Allen, J., 1974, Aeronautics and the World's Precious Resources, RAeS Spring Symposium, London.

is said that a graduate entering the industry today has only a 50 per cent chance of ever working on a new aircraft.[298]

Some other military systems will be briefly described. The recoverable pilotless vehicle (RPV) is descended from the De Havilland and Folland radio controlled unmanned bombers of World War I. They are small and have limited uses. Microaircraft that are small enough to be hand-held offer local reconnaissance data to individual infantrymen. The very much larger UAVs, such as the Global Hawk, which can fly tens of thousands of kilometers and stay aloft for 40 h offer significant new capability in global warfare but are vulnerable to many kinds of attack, and as shown already are somewhat unreliable and very expensive. Non-lethal weapons which disable parked aircraft and civilian installations together with Operation other than war (OOTW) are likely to be very important in the future.

2.4.1.2 Characteristics of the Sector

As the industry of defence is closely related to the national security of a country it shows some differences from other sectors. Wide and detailed practices are being applied and the control of the governments, which are the main customers, prevails. In this environment, this sector differentiates from many other sectors in many points. In order to understand this sector better, the characteristic features of the sector which will help us to understand the details of this sector, differentiating this sector from the others, has been explained in this part.

Governments are central to understanding defence industries. Governments are major buyers and sometimes, the only buyers of defence equipment. A government can use its buying power to determine the size and ownership of its national defence industry, its structure, entry and exit, prices, efficiency and profitability (structure, conduct and performance). Governments can support their defence industries by preferential purchasing and/or through direct subsidy payments

[298] Allen, J., 2005, Aeronautics-1903, Aerospace-2003;?? 2103.

In addition to the role of government, defence industries have a number of economic characteristics in order to understand military aerospace industry:

Cost levels and trends: Defence equipment is costly and the trend is towards rising costs. For example, the UK is purchasing three Astute Class nuclear-powered submarines at an estimated total cost of £2.01 billion, whilst the 4-nation Eurofighter combat aircraft is estimated to cost £13.8 billion for development and a unit production cost of £41.7 million per copy (1999-00 prices: HCP 613, 2000). And the trend is towards rising costs. Since 1945, the real unit costs of combat aircraft designed for the RAF (excluding strategic bombers and adjusting for different production runs) has risen at a compound annual growth rate of 11.5%. As a result, the real unit cost of tactical combat aircraft has increased by a factor of 2.5 per decade.[299] These cost trends reflect the technical arms race leading to higher development costs and higher unit production costs so resulting in fewer aircraft being purchased from a limited defence budget; but with each new generation of aircraft being more productive.

Technical progress: Technical progress has affected markets and the structure of defence industries. Technical advance has resulted in new products such as the jet engine, missiles, electronics, radar, helicopters and space systems with a greater emphasis on R&D. Since 1945, the long run structural trend has been towards a smaller number of larger firms, reflected in mergers and exits from the industry and this trend has been especially evident since the end of the Cold War in 1990.

Entry is costly: Entry requires technology and R&D expenditures, with the associated requirements for qualified scientists, engineers and other skilled labour. R&D costs will vary with the type of equipment being developed (eg. simple trainer to advanced combat aircraft). Learning costs are also significant in aerospace industries.

Learning economies and costs: Quantity is a major determinant of unit costs and hence of competitiveness. Long production runs enable fixed R&D costs to be spread over a larger

[299] Hartley K. and Sandler, T., 2001, "The Economics of Defence, Vols. I-III, The International Library of Critical Writings in Economics 128.

volume; and in addition, there are learning economies in production. Learning reflects the fact that productivity improves with experience and through learning - by- doing. An 80% learning curve - which is often used in aircraft manufacture - suggests that man hours and labour costs will decline by about 20% for each doubling in the cumulative output of a given aircraft type. Learning economies mean that the US aircraft industry benefits from its much larger scale of output compared with the Europeans. The US industry also benefits from steeper learning curves with typical slopes of 75% in the USA compared with 80% in Europe. Also, US learning curves show continuous learning with European learning curves tending to flatten out after 100+ units.[300]

The incentives to collaborate: Ideally, collaboration between two or more nations can lead to the sharing of high R&D costs and to scale and learning economies from longer production runs as nations combine their orders. On this basis, collaboration results in cost savings to each nation.

Industrial restructuring: Disarmament following the end of the Cold War has resulted in some cancellations, fewer new projects, smaller orders, shorter production runs, and delays in ordering and the stretching- out of programmes. The result has been job losses, plant closures, mergers and exits from the defence business. Some firms have moved from prime contractor to sub-contractor status, whilst others have merged either with other aerospace firms or with other defence companies. Some of the largest mergers have occurred in the US aerospace industry enabling American aerospace companies to obtain the economies of both scale and scope, although the price of efficient scale has been reduced competition. In aerospace, the US examples have included the creation of the Boeing Group and Lockheed Martin, while in the UK British Aerospace acquired much of Royal Ordnance and GKN acquired Westland. In late 1999, there was further restructuring and mergers in Europe (BAE Systems, EADS).

[300] Anton, J. and Dennis A., 1987, "Second Sourcing and the experience curve: Price competition in Defence Procurement", Rand Journal of Economics, pp.57-76.

The complexity of supply chains: Typically, studies of defence industries focus on the major prime contractors to the neglect of their suppliers at the first, second and third tier. Little is known about supply chains: for example the technical capabilities of sub-contractors, their location, their dependence on defence business and their importance in local labour markets.

2.4.1.3 Global Aeronautic Defence Industry

It is inevitable to know where the sector is in the world and the latest trends to understand the state of the sector exactly. When the arrangements' contends in defence aviation sector and investments are thought it is quite normal that the sector is in the some giant firms. Most of these companies are of US and US keeps nearly 40 per cent of the sector in the world. EU is in the second order with two big giants BA and EADS in this sector. In this section it is given a place to mention about competition among the countries, situation of the sector, its comparison with the civil sector and main companies one by one. Place of the EU in the world will be understood better after finding out what the position of the sector is in the world.

Increases in defense expenditure have countered the decline in the civil aerospace sector following the downturn in the end-user airline industry in the aftermath of the 9/11 terrorist attacks.

Civil and military aircraft production is in the hands of only a few large players: Boeing and Lockheed Martin in the US, and EADS and BAE Systems in Europe. It may be difficult for companies to forecast production plans as product development can be expensive and time consuming, lasting often as long as ten years.

The global aerospace and defense market has performed well in recent years, led primarily by large increases in defense spending caused by the gulf war and the US led global war on terrorism. These increases have countered the decline in the civil aerospace sector following the downturn in the end-user airline industry in the aftermath of the 9/11 terrorist attacks.

The global aerospace and defense market reached a value of $1,275.5 billion in 2004, having grown with a compound annual growth rate (CAGR) of 4.3% in the 2000-2004 period. The US accounts for by far the largest proportion of this figure, with total revenues of $504.4 billion in 2004, equivalent to 39.5% of the global market. The leading revenue source for the global aerospace and defense market in 2004 was the defense sector, which accounted for 86.4% of the market's value. In value terms this sector was worth $1,102.1 billion in 2004, an increase of 24.3% since 2000. The importance of the defense sector has been emphasized by the weakness of the civil aerospace sector in recent years. The civil aerospace sector has been suffering from the combined effects of 9/11 and the resulting threat of terrorism causing large declines in air traffic and also from fierce price competition resulting from the introduction of low-cost competition to the airline industry. This sector generated total revenues of $173.3 billion in 2004, equivalent to the remaining13.6% of the market's value. Over the next five years, the market is expected to experience low levels of growth; the market is forecast to reach a value of $1,375.5 billion, which equates to a CAGR of 1.5% in the 2004-2009 period.[301] The global aerospace and defense market grew by 5.4% in 2004, to reach a value of $1,275.5 billion. The compound annual growth rate (CAGR) of the market in the period 2000-2004 was 4.3%.(Figure 2.1)

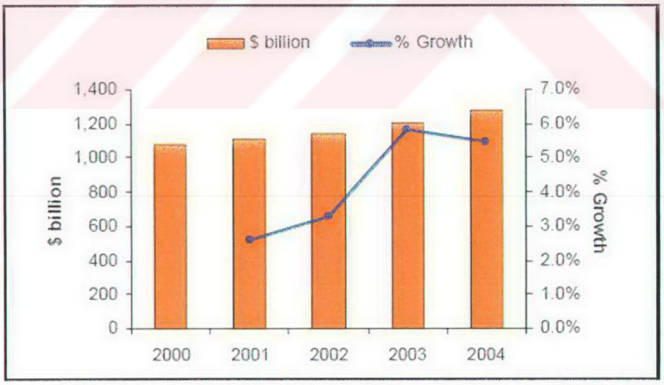

Figure 2. 41 Global Aerospace & Defence Market Value

[301] Global Aerospace and Defence, 2005, Datamonitor Report.

market leaders, and smaller aerospace companies in China and elsewhere may be the beneficiaries.[303]

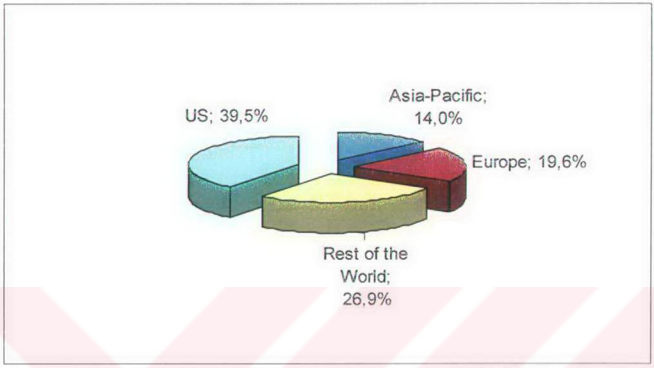

Figure 2. 43 Global Aerospace & Defence Market Segmentation by Region[304]

The market has several unusual features. Product development can be expensive and time consuming, lasting often as long as ten years. It may be difficult to forecast demand so far into the future. For example, the Eurofighter, which EADS brought into production, was conceived in the days when NATO countries were arming against the Soviet Union, but finds itself taking flight over a very different geopolitical landscape.

Further, critics of the Airbus A380, which successfully completed its maiden flight this year, muse on whether the future for civil aviation lies in a superjumbo like the A380, or in smaller planes such as Boeing's Dreamliner project. Financing such long development, production and aftercare cycles is only realistic for large companies. Government support may be forthcoming, especially in Europe, and this has attracted criticism from foreign

[303] "Air Wars", 1999, World Link.
[304] Global Aerospace and Defence, 2005, Datamonitor Report.

players, notably Boeing, who consider that this puts competitors like Airbus at an unfair advantage in what is supposed to be a free market.[305]

Another feature of the landscape is the importance of state defense and security ministries as customers. Defense spending, and thus demand in the market, is influenced by politics as well as economics. Thus, the US has a vast and growing military budget, in part because of the perceived threat to security from terrorism and its involvement in large-scale military operations since 2001. Contrastingly, Germany has begun to cut its defense spending which was already lower than that of France and the UK. There is scope for international competition within the defense sector, with BAE Systems of the UK becoming a major supplier to the US Department of Defense following its acquisition of UDI, for example.

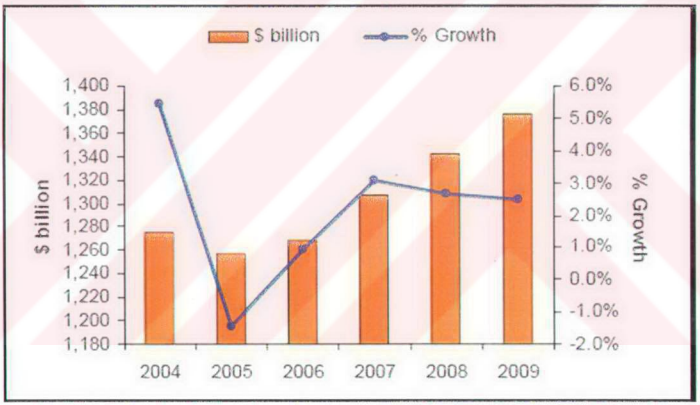

Figure 2. 44 Global Aerospace & Defence Market Value Forecast

In 2009, the global aerospace and defense market is forecast to have a value of $1,375.5 billion, an increase of 7.8% since 2004. The compound annual growth rate (CAGR) of the market in the period 2004-2009 is predicted to be 1.5% (Figure 2.4).

[305] Cook, N., 1996, "Battlespace 2000", Interavia Business & Technology, Vol. 51, Issue 601.

Defense spending generates 86.4% of the global aerospace and defense market's value. Civil aerospace spending accounts for the remaining 13.6% of the market's revenues (Figure 2.2).

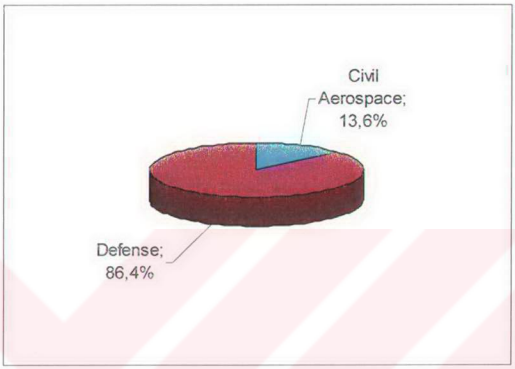

Figure 2. 42 Global Aerospace & Defence Market Segmentation by Sector[302]

The US is the world's largest aerospace and defense market and generates 39.5% of the global market's revenues. Europe accounts for a further 19.6% of the global market's value. The global aerospace and defense market is highly concentrated. Civil and military aircraft production is in the hands of only a few large players, Boeing and Lockheed Martin in the US, and EADS and BAE Systems in Europe. Further consolidation at this level is unlikely, although it may be possible at the level of component suppliers. Japan is somewhat anomalous: its national wealth is high, and it is a large market for sales of aircraft, but has no indigenous production to rival the US or Europe, its aerospace sector is largely confined to manufacturing components for the majors, or producing planes under license. Outsourcing the manufacturer of sub-assemblies and components is often sensible for the

[302] Global Aerospace and Defence, 2005, Datamonitor Report.

In the following part, leading companies in the global defence industry is analyzed. The financial data used in this analysis is taken from Bernstein Research, Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005.

2.4.1.3.1 The Boeing Company

The Boeing Company (Boeing) is one of the world's leading aerospace companies and the largest combined manufacturer of commercial jetliners and military aircraft. With additional capabilities in rotorcraft, electronic and defense systems, missiles, rocket engines, satellites, launch vehicles and advanced information and communication systems, the company's reach extends to customers in 145 countries. In terms of sales, Boeing is one of the largest US exporters. The company is headquartered in Chicago, Illinois. For the fiscal year ended December 2004, Boeing generated revenues of $52,457 million, an increase of 3.9% from the previous year. The company reported a net income of $1,872 million for fiscal 2004, up 160.7% from the previous year.

2.4.1.3.2 Lockheed Martin Corporation

Lockheed Martin is engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services. It is the largest provider of IT services, systems integration, and training to the US government. The company is headquartered in Bethesda, Maryland.

For fiscal 2004, Lockheed Martin generated revenues of $35.5 billion, an 11.6% increase over the previous year's revenues. The company reported a net income of $1.3 billion for 2004.

2.4.1.3.3 European Aeronautic Defence and Space

European Aeronautic Defence and Space Company, (EADS), is the world's leading aerospace, defense and related services company. The company operates in the North America, Europe, Asia/Pacific, Middle East, Latin America and UK. It is headquartered in Paris, France. For the fiscal year ended December 2004, the company generated revenues

of $39.4 billion, an increase of 5.4% on the previous year. The company recorded a net income of $1.5 billion up 636.4% on the previous year.

2.4.1.3.4 Northrop Grumman Corporation

Northrop Grumman is the second largest US defense company. It is the leading integrator for military systems and manufactures defense related systems in the fields of avionics, space, precision engagement and aerial vehicles. The company operates primarily in the US. It is headquartered in Los Angeles, California and employs about 125,400 people. The company recorded revenues of $29,853 million during the fiscal year ended December 2004, an increase of 13% over 2003. The increase was primarily attributable to higher revenues in each of the company's business segments. The operating margin of the company during fiscal 2004 was $2006 million, an increase of 37% over fiscal 2003. The net profit was $1084 million during fiscal year 2004, an increase of 25.2% over 2003.

2.4.1.3.4 BAE Systems PLC

BAE Systems is a global systems, defense and aerospace company, servicing all the main defense sectors, the commercial world and the civil aircraft market. The company is a contractor and systems integrator for customers in the air, land and sea defense market sectors as well as the command and control market sectors. It operates out of about 60 UK sites and around 39 overseas in around 130 countries.

BAE Systems is headquartered in Hampshire, UK. For the fiscal year ended December 2004, the company generated revenues of £13,479 million ($24,685 million), an increase over the previous year's £12,572 million ($23,024 million).

2.4.1.3.5 Raytheon Company

The Raytheon Company is one of the largest defense contractors in the world, and an industry leader in defense and government electronics, space, information technology, technical services, and business aviation and special mission aircraft. The company is headquartered in Waltham, Massachusetts.

For the fiscal year ended December 2004, the company reported revenues of $20,245 million, an increase of 11.8% from the previous year. Net profit for this year was reported at $417 million, a 14.2% increase compared to fiscal 2003.

2.4.1.4 Aeronautic Defence Sector in European Union

Following the global analysis of the sector, the condition of the sector will be analysed in detail in this part. Firstly, after general information such as the main actors, the relations with the world, the condition of the member countries, the historical development of the aviation defence sector in the EU will be touched upon. In this process, the most important milestone is the end of the Cold War Era. And then the eminent organizations related to aviation of defence which are in the constitution of the EU are mentioned. The frame of the legislations in the member countries will be understood better. And then the detailed analysis of the aeronautical defence industry in the EU is mentioned. Here it is explained where the EU is when it is compared to the international organizations such as NATO and then the programmes going on in the constitution of the EU are analysed and the analysis of the sector in terms of factors such as employment, profitability and competition are done. Finally, the conditions of the two giants of the sector in the EU, BA and EADS, are analysed and also the strategic relationships between them are mentioned.

European defence companies have responded to the US competitive threat by mergers and restructuring to create a smaller number of larger groups able to compete with the big American arms corporations. Two major European groups have been created, namely, BAE Systems and EADS, the European Aeronautic, Defense and Space Company. The acquisition of GEC-Marconi Electronics Systems by British Aerospace created BAE Systems which is vertically-integrated and specialised in defence, with capabilities in air, land and sea systems, as well as in defence avionics and electronics. EADS is a merger of Aerospatiale- Matra (France), Daimler-Chrysler Aerospace (Dasa: Germany) and CASA (Spain) and a joint venture with Finmeccanica (Alenia Aeronautics: Italy). Compared with BAE Systems, the EADS group is horizontally-integrated with substantial civil aerospace interests and includes state-owned organisations. There has been further European

industrial consolidation in defence electronics and missiles involving a new group comprising the missile businesses of BAE, EADS and Finmeccanica.[306] There is also a challenge for European governments. The US model of large arms companies is based on a large home market. The re-structuring of Europe's arms companies requires that the European governments combine their various national demands to create a Single European Defence Market. Such a Single Market would provide the economic basis for European global defence companies. Currently, the four governments of France, Germany, Italy and the UK have created a quadrilateral armaments agency (known as OCCAR) and in the longer-term this could be the basis for a European Union armaments agency. However, there is a danger that a Single European Defence Market could lead to protectionism and political work-sharing markets (ie. compared with specialist defence firms which lack such commercial expertise).[307]

For Europe's aerospace industries, having competitive products is also the key to securing vital export orders. The ability to provide modern weapons which are not dependent on American components, and the resultant political and legal export constraints that go with them, is a major selling point for European companies competing for orders in key Middle East and Pacific Rim markets. European defence exports are based on the ability to provide customers with modern combat platforms (aircraft, naval vessels and armored vehicles) and associated technologies, including guided weapons, propulsion and command and control. From the sale of modern combat platforms flows billions of dollars-worth of business in training, ammunition, electronics, and maintenance and infrastructure construction. For example, Britain has sold more than $35 billion worth of military equipment to Saudi Arabia after US Congressional vetoes on the sale of F-15 Eagle strike aircraft to Riyadh in the mid-1980s. But recent devaluations of the US dollar versus European currencies have significantly reduced the competitiveness of European industry. Even minor drops in the value of the US dollar can force up the price of European aerospace products.

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[306] "Merger Creates Largest European Aircraft Maker", 2000, Machine Design, Vol. 72, Issue 9.
[307] Philippe, C.,"Toward a Common Defence", Vital Speeches of the Day, Vol. 69, Issue 2.

Today in Europe the manufacture and trade of defence-related goods and services are governed by their own special rules. This situation stems from the monopoly on the use of force enjoyed by governments in organized societies. This is why it displays two contrasting sets of characteristics, both those that are common to all countries or political bodies, and which stem from this principle, and many differences that reflect the determining factors in national identity and the relations each of these nations enjoys with others.

For many years, in Europe at least, defence policies were stable. Between 1945 and 1990, defence policy was characterised by the two major alliances: the Warsaw Pact and NATO. This situation featured:

- A nuclear deterrent held by both sides;
- The scenario of a highly intensive conventional conflict right in the heart of Europe.

The stable nature of this situation, which dovetailed with the life cycle of defence equipment, also applied to the level of resources provided in budgets. The first blow came with the disintegration of the Soviet bloc, specifically the collapse of the former USSR and the Warsaw Pact, the reunification of Germany, and the increased speed with which Eastern countries drew closer to Western Europe and NATO. One initial consequence of this was a rapid decline in defence spending: between the period 1980-1984 and 1991, the share of GDP earmarked for defence equipment fell from 1.48% to 0.99% in the United States, from 1.24% to 0.93% in France, from 1.11% to 0.81% in the United Kingdom, and from 0.58% to 0.24% in Germany. The trend was to cash in on the peace dividend. For European industry, the trend was worsened by a decline in exports. Nevertheless, it quickly became apparent that peace was very much a relative concept.[308]

The increase in the number of localized conflicts, particularly in the Balkans, raised the question of European countries' individual and collective ability to take military action. The

[308] "American Monsters, European Minnows", 1196, Economist, Vol. 338, Issue 7948.

events of 11 September 2001 once again, and within a very short time, brought into question defence strategies and requirements:

- from defence to security
- position on the United States' claim to leadership
- organizing and defining requirements: national, NATO, EU, WEU;
- a required and acceptable level of spending.

One other notable change comes as a result of the downsizing of armies associated with their professionalisation and attempts to achieve a 'zero casualty rate' amongst troops in action. This is leading to lower spending appropriations and a far greater demands on all equipment.

2.4.1.4.1 Historical Background of Aeronautic Defence Sector in EU

In order to understand the attitude of the EU in the defence of aviation how the sector has developed from the past to nowadays and how the strategies of the EU have been formed will be analysed in this section. Here especially the process of the Cold War Era and its aftermath will be analysed, the state of the EU in the constitution of NATO and the condition of the USA and EU and transatlantic relations will be observed in detail.

During the Cold War, the transatlantic alliance and partnership was built on three mutually supporting principles: political and cultural community; common military defense; and, shared burdens and risks. However, one need not be a seasoned expert in order to understand and accept that during the 1990s new patterns of governance emerged in the U.S.-European relationship.[309]

First, there is no longer a clear hierarchy between economic and security issues as during the Cold War, when military and security cooperation between nations in the transatlantic

[309] Nye, J., 2000, "The US and Europe: Continental Drift?", International Affairs 76, No. 1.

alliance had absolute priority and all trade and economic issues were subsidiary to security. With the collapse of the Soviet Union, the threat that made military and security cooperation so vital, and under the process of globalization, evident during the 1990s, this hierarchy has somewhat vanished.[310] Moreover, intensified competition and economic rivalry, especially in high technology sectors, have begun to dominate increasingly the security and political agenda between the U.S. and some of its most important Western European allies.[311]

This trend was particularly evident in the defense industrial field, forcing a German observer to claim in 1997 that the European defense sector's survival as a leading-edge technology industry capable of acting as a prime contractor for advanced weapons systems may indeed be jeopardized by fierce US technological and commercial competition.

Second, the 1990s witnessed a constant preoccupation of the European elites with creating a "European defense identity." A deep commitment to building a "European defense industry" has been perceived as an essential feature of an integrated Europe that must become an independent and coequal partner with the U.S., and the creation of a "truly European" aerospace sector has been considered an essential step in achieving this goal. As Manfred Bischoff, then President and CEO of DASA, pointed out in November 1996 at a symposium of the European Parliament and European Commission in Brussels: "I do think that we can seriously regard the European Aerospace Industry as a vital industrial and technological base and a key element in maintaining an independent European political and economic position."[312]

In this context, measures that intertwined questions of industrial policy, promotion of new technology, strategic trade, and protection of the defense-industries have been actively advocated at both national and, especially, European levels. Ultimately this was the response to the strategic perception that the decline of the European defense industry was

[310] Bergstan, F., 1999, "America and Europe:Clash of Titans", Foreign Affairs 78, No. 2.
[311] Peterson, E., 1992, "Looming Collission of Capitalisms", The Washington Quarterly 17, No.2.
[312] Bischoff, M. and Evans, R., 1996, "The Future of the European Aerospace Industry," speeches held at a Symposium of the European Parliament and the European Commission in Brussels.

raising broader issues that might negatively impact European industrial competitiveness and trade performance beyond the defense sector.

Despite the understandable reasons for Europe's determination to build its own defense identity, such a course poses real political and security risks to the transatlantic security and defense relationship. On one hand, it tends to erode the political base on which support of European publics for NATO rests. On the other, it does not do much to stop the defense industrial bases of Europe and the U.S. from growing apart, a trend increasingly evident since the mid- 1990s.[313]

Moreover, as the Kosovo air war demonstrated, the gap between U.S. and European capabilities is real and keeps increasing, 14 leading to an acute and worrisome "tiering" problem within NATO.15 As Robert Hunter, then U.S. Permanent Representative on the North Atlantic Council, warned already in 1997: The ability of the European countries to be engaged in high technology is going to be a central part of maintaining the strength of the alliance and this problem is a major growth area of concern.[314]

Finally, the creation of BAE Systems17 and EADS in 1999 signaled a strong European commitment to defense industrial consolidation. It should also be perceived as a wake-up call for U.S. policy-makers because, due to the size of the newly created entities, it heralds stronger European competition in third markets and the possibility of excluding American firms from the European defense market (Table 2.3).

But, most importantly, these events trumpeted that the Europeans have begun to fully understand that in the strategic high technology industries, mergers also decide whether a nation, or an integrated bloc of nations like the EU, maintains the industrial and economic guarantees of sovereignty. Sovereignty, especially in the post-industrial world, needs an

[313] Grant, R., 1997, "Transatlantic Armament Relations Under Strain," Survival 39, No. 1,pp.111-137.
[314] Starr, B., 01/101997, "USA Warns of Three-tier NATO Technology Rift," , Jane's Defence Weekly.

industrial base, and low levels of technology dependency ensure a higher level of independence in policy-making.[315]

In this setting, in order to better assess the shifts in the transatlantic defense and security relationship during the 1990s, a new cross-disciplinary approach is needed. This framework should take into account that the links between military and commercial technology are changing, making the problem of ensuring technological autonomy all the more complicated.[316] Consequently, the meaning of national military capabilities has also to be reassessed and redefined.

Table 2.5 World's Top Armaments Producing Firms in 2000

Rank	Company	Defense sales (U.S. $ million)
1	Lockheed Martin (U.S.)	18,610
2	Boeing (U.S.)	16,900
3	BAE SYSTEMS (UK)	14,400
4	Raytheon (U.S.)	10,100
5	Northrop Grumman (U.S.)	6,660
6	General Dynamics (U.S.)	6,520
7	EADS (Ge/Fr/Sp)	5,340
8	Thales (Fr) (former Thompson-CSF)	5,160
9	Litton (U.S.)	3,950
10	TRW (U.S.)	3,370

Furthermore, since the late 1980s the concept of dual-use technology has been increasingly perceived as a window on the contribution of technology to economic and military security. As such, it is providing a new and interesting perspective on the changing relationship

[315] Pfaff, W., 1999, "The coming clash of Europe with America," World Policy Journal 15, no. 4.
[316] Sandholtz W. and Borrus M., "The Highest Stakes: The Economic Foundations of the Next Security System, pp. 193-194.

between public and private investments in the technology base, and on the nature of the technological process itself. As Keith Hayward contends,

"...the relationship between defense industries and governments has been undergoing more fundamental changes brought about by industrial globalization and by longer-term developments in the patterns of military requirements, including the equipment and technologies needed for the RMA [Revolution in Military Affairs]".[317]

Against this background, when assessing the post-Cold War transatlantic security environment, greater attention should be paid to the economic, technological, and defense industrial developments in Europe. As such, the new framework of analysis must bridge the fields of international security studies, political economy, and international business relations, areas of research that scholars have kept artificially separated for too long.[318] Its relevance derives from the prospect that it may bring fresh thinking when examining an old question, the relationship between technology, wealth, and power among the Western allies, in an international security environment fundamentally different from the Cold War years.

Ultimately the new approach is required because, as John Zysman observed as long ago as 1991:

A new security era is upon us; but the current security debate is still rooted in the past. The debate has been about the level and form of American contribution to a Western security system in which America is at the centre and its allies have ceded the definition of crisis and response to the United States because they are dependent on its action for their own security. Now a new reality confronts us, in pieces, in fragments and in isolated controversies, but not yet as a whole ...American initiative and Western unity in the Gulf crisis are deceptive; they are not the precursors of the post-Cold War global order. [319]

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[317] Hayward, K., 2000, "The Globalisation of Defense Industries," Survival 42, No. 2,pp. 115.
[318] Dunning, J., 1993, "The Study of International Business A Plea for a More Interdisciplinary Approach, Routledge, London.
[319] John Zysman, 1991, "US Power, Trade and Technology," International Affairs 67, No. 1, p. 103.

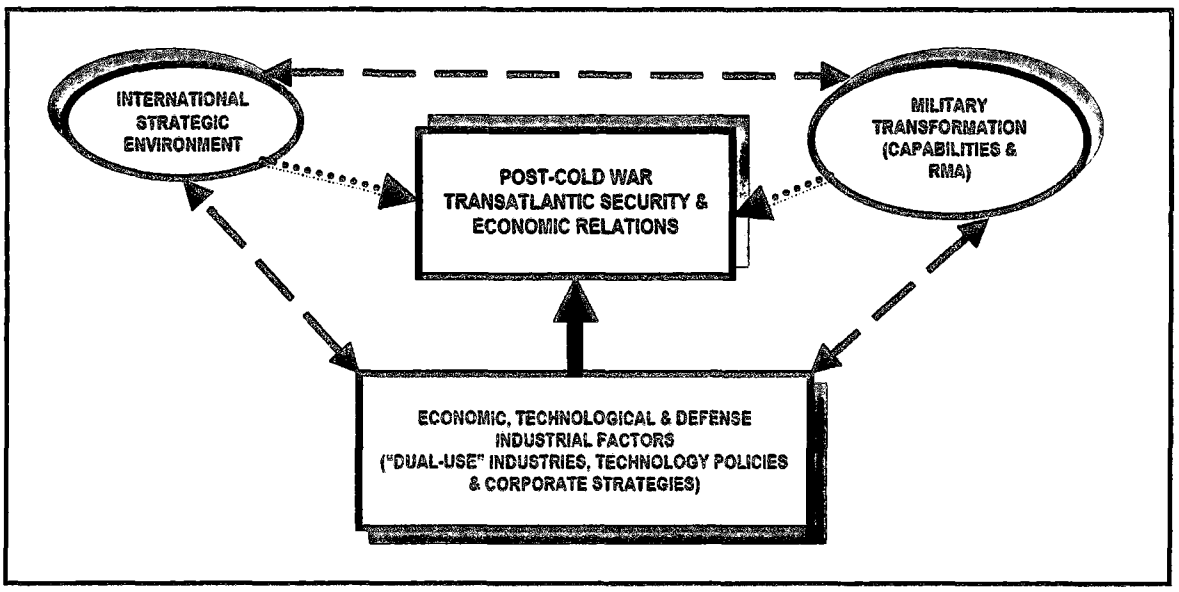

Figure 2.45 Relevant Factors in Assessing Shifts in Transatlantic Relations during the 1990s

2.4.1.4.2 Defence organizations in EU

The companies of the member countries in the constitution of the EU in the purpose of participating in common enterprises have set up various organizations. These institutions have been supporting the Commission's regulating role and helping the EU's increasing the capabilities of the sector of defence. In order to understand the sector in the EU this section has been devoted to these institutions. Here the two principal companies of these institutions, EDA and ASD have been touched upon.

2.4.1.4.2.1 ASD (Aerospace and Defence Industries Association of Europe)

The Aerospace and Defence Industries Association of Europe, ASD, represents the aeronautics, space, defence and security industries in Europe in all matters of common interest with the objective of promoting and supporting the competitive development of the sector. It pursues joint industry actions which require to be dealt with on a European level or which concern issues of an agreed transnational nature, and generates common industry positions.

ASD has 30 member associations in 20 countries across Europe and represents over 2000 companies with a further 80 000 suppliers, many of which are SMEs. The industry sectors employ around 600 000 people, with a turnover of around 100billion.

The ASD Statutory Bodies are the General Assembly (joint meetings of the Council and Board), the Council (comprising the Presidents/CEOs of major member companies) and the Board (comprising the Presidents of the National Associations). The Council decides on the general policy of the Association and the Board is responsible for the administration of the Association. They are supported by two Commissions. The Policy Commission applies itself to reaching an industry consensus on priority issues and giving guidance on these matters to the Association. It is advised by the EU Working Group the Brussels based representatives of our major member companies. The Operations Commission implements a range of major initiatives - many of which are concerned with technical (RT&D) matters and the provision of a range of services, e.g. establishing standards. Both Commissions have a number of standing and ad hoc Committees feeding into them, which they oversee. They work in such areas as environment, airworthiness, quality, technical, economic, ATM, etc. The more focused sectoral interests are dealt with by the Sectoral Groups whose work is also used as a basis for the work of the Policy and Operations Commissions. The ASD Secretariat supports the industry Commissions and Committees and develops and maintains relationships with all external stakeholders.

2.4.1.4.2.2 EDA (European Defence Agency)

The European Defence Agency was established under a Joint Action of the Council of Ministers on 12 July, 2004, "to support the Member States and the Council in their effort to improve European defence capabilities in the field of crisis management and to sustain the European Security and Defence Policy as it stands now and develops in the future"[320]. The Agency is now operational with its senior management in place and a budget and work programme for 2005 approved by defence ministers of the participating Member States.

[320] Available on site: http://www.eda.org

The Agency's is designed to support the Member States in their effort to improve European defence capabilities in the field of crisis management and to sustain the ESDP as it stands now and develops in the future. More specifically, the Agency is ascribed four functions, relating to:

- Defence capabilities development;
- Armaments co-operation;
- The European defence, technological and industrial base and defence equipment market;
- Research and technology.

These functions all relate to improving Europe's defence performance, by promoting coherence in place of fragmentation. A more systematic and comprehensive approach to identifying ESDP's capability needs will contribute to better-defined future requirements on which collaborations, in armaments or R&T or the operational domain, can be built. More collaboration will in turn provide opportunities for industrial restructuring and progress towards the continental-scale demand and market which industry needs.

On this basis, the Agency's tasks include:

- To work for a more comprehensive and systematic approach to defining and meeting the capability needs of ESDP (supporting, for example, the Headline Goal 2010 initiative);
- To promote equipment collaborations, both to contribute to defence capabilities and as catalysts for further restructuring of the European defence industry;
- To promote European defence-relevant R&T, as vital both to a healthy defence technological and industrial base and to defining and satisfying future capability requirements. This will involve pursuing collaborative use of national defence R&T funds, in the context of a European policy, which identifies priorities;

- To work, in close cooperation with the Commission, on steps towards an internationally competitive market for defence equipment in Europe.

The Agency's comparative advantage should be its ability to comprehend all these agendas, and relate them so as to realise their synergies. Its special position should allow it to develop uniquely cogent analyses and proposals across the range of its activities.

The EDA is an Agency of the European Union. Steering Board is the decision-making body composed of Defence Ministers of the 24 participating Member States (all EU Member States, except Denmark) and the Commission. The Steering Board acts under the Council's Authority and within the framework of guidelines issued by the Council.

The Agency faces outwards. Its main shareholders are the Member States participating in the Agency; key stakeholders include the Council and the Commission, as well as third parties such as OCCAR, LoI and WEAG/WEAO. NATO and non-EU States are important interlocutors also.

2.4.1.4.3 Analysis of Defence Aeronautic Industry in EU

Having analysed the general situation of the defence aeronautic industry in the EU in the previous chapters, this chapter is devoted to the detailed analysis of the sector. This section is devoted to the subjects from the manufacture capability of the EU, the import – export relations throughout the world, employment to the individual situation of each member countries. Nevertheless, the main focus is concentrated in the main companies especially the situation of EADS and BA and their interrelations.

The European defence aeronautics industry is going through a difficult period. Its prospects for investment and development are limited and it faces tough transatlantic competition. The absence of medium and long-term projects, the fact that States have pulled out of commitments, competition within Europe and the cap on defence budgets have combined to produce a less than rosy outlook: either a steady decline as compared with civilian capabilities, or involvement in more deeply integrated transatlantic cooperation that

threatens to reduce the European defence aeronautics industry to sub-contractor status, admittedly with high added value, but with little autonomy. It is clear, then, that the way for Europe to achieve greater autonomy, as far as its security and defence capabilities are concerned, is to retain and develop a strong defence aeronautics industrial base.

Europe can manufacture high performance fighter aircraft, military helicopters, transport aircraft, a wide range of missiles and military satellites. Current capabilities are proven and the potential for development exists but the main beneficiaries, customer (and shareholder) nations act randomly, without any overall plan, often leaving their national flagship companies open to what is not always free and fair competition. Efforts have been made over the last ten years to restructure the aeronautics industry but these have been largely in the civilian sphere, with Airbus as the most successful. European countries involved in the project produce a single civilian passenger/transport aircraft that competes with Boeing for its share of the world market.[321]

The situation of the European defence aeronautics industry, with its three fighter aircraft (Eurofighter, Rafale and Gripen) and the Airbus A400M military transport aircraft, is completely different. The A400M represents a major advance towards achieving an autonomous European forces projection capability, but is hostage to the political and budget disagreements that have at various times led to at least two of the eight countries originally involved in the programme dropping out. The fighter planes enjoy a high reputation for performance, quality and versatility, but they are in heavy competition with one another and must also compete with US F-16s and, in future, the Joint Strike Fighter (JSF/F35).[322]

On the world market, European aircraft for export have, for political and economic reasons, run into trouble because of American competition. It would also be true to say that European nations, which support their flagship companies, do not have the same financial and diplomatic influence as the United States. In the absence of an export market, domestic

[321] Busquin, P., 2001, "Fast Forward for European Aerospace R&D", Interavia Business & Technology, Vol. 56, Issue 655.
[322] The Future of the European Defence Industry, 2003, EMF Conference, Syndex Report.

sales alone are insufficient to keep the defence aeronautics industry afloat, other than by turning to protectionist measures like subsidies and materials costs that are unsustainable in the longer term. Internal political change also has an influence for better or for worse. The commitments given by one government can be confirmed or reversed by its successor, adding a further degree of uncertainty that does not bode well for investment.

As long as existing programmes receive support and orders are maintained, the defence aeronautics industry will remain stable. However, there is real cause for concern. When current programmes come to an end, the industry in Europe will find itself subject to the heavy market domination of the United States because of the involvement of a number of the larger nations in the JSF programme. For the time being, there are no new European aircraft programmes in the offing that could compete with this project, especially since the funding some European partners have committed to it will not be available to those parts of the European defence industry that are not involved.[323]

The choice is not about economics or technology; it is a major political choice with implications for European defence industries and their autonomy. The Americanization of European fighter aircraft fleets is also reflected in systems integration, tactics, training and equipment (for example parts and munitions), giving rise to the risk of incompatibility, as far as interoperability goes, between aircraft produced for the European market. In the light of the present restrictions on exports and constraints in terms of technology transfer, recourse to American hardware and software for the sake of compatibility is an attractive solution but one that further reduces the autonomy and comparative independence that Europeans still retain in this area.[324]

The European defence aeronautics industry will also in the medium term have to come to terms with the aeronautics industries of the central European states, via NATO and European Union enlargement. The latter have recognised areas of expertise which will need

[323] Heirtley, K., 2002, "The Future of European Defence Policy: An Economic Perspective", Defence and Peace Economics, Vol. 14, pp. 107-115.
[324] Bangeman, M., 1998, "Europe's Way Forward in Aerospace and Defence, Interavia Business & Technology", Vol. 53, Issue 620.

to be integrated in the present European network; otherwise they may fall under the conrol of American firms in the sector, through buy-outs and equipment sales. Russia also occupies an important place in this sphere and its aircraft compete with those produced in Europe, particularly in South-East Asian markets. Cooperation between the European defence aeronautics industry and that of Russia, the subject of another report from this Committee, is also, ultimately, one of the ways of safeguarding Europe's autonomy, knowhow and specific capacities.

After the Cold War, as a result of the continuing decline in Russian capabilities in this sphere, the European defence aeronautics industry found itself in a better position on the world export market. However, it also suffered the backlash of recession and falling defence budgets and the impact of the negotiations on conventional arms reduction in Europe. The need to replace old equipment with new was part of the reason for continuing and expanding existing programmes, particularly Eurofighter and Rafale. Here too it was a matter of supporting national production, research and technology and research and development capabilities. Eurofighter also provided an example of Europe's resolve to cooperate at a time when governments wanted to show the United States that they were able to start taking on a more important role in Europe's defence including in the defence equipment field.[325]

The Gulf War laid bare the gap between Americans and Europeans in terms of air assets and capabilities. Allied aircraft had little, if any, night combat capability or guided weapons; they were less well protected and had limited interoperability with US aircraft. At the end of the war, the American aeronautics industry was able to reap the benefit of the technical advantage and superiority of its products while the inadequacy of the systems in use in the majority of the major European countries concerned, as compared with new medium-intensity conflict requirements, was plain for all to see. Europeans could not have conducted such an extensive air war without the United States. The wars in former

[325] Lungu, S., 2005, European Defense Market Integration: The Aerospace Sector in 1987-1999.

Yugoslavia, Bosnia and Herzegovina and Kosovo were blatant examples of this continuing inadequacy.[326]

There is not only a need for new fighter aircraft but also for larger, more modern transporters with bigger payloads and wider ranges. The Future Large Aircraft (FLA) project, now the Airbus A400M, is an attempt to meet this requirement. Munitions are also needed, particularly air-to-air and air-to-ground missiles, guided bombs and cruise missiles. Stealth capability is also under study, as are offensive and defensive electronic weapons systems, software, aerodynamics, all of them to become part and parcel of new, fourth-generation multi-role aircraft, to have, where possible, a naval variant for use aboard aircraft carriers. At the same time, it is hoped to procure attack and transport helicopters for tactical missions, ground support, Special Forces heliborne transport and short- and medium-range ground and air surveillance. This adds up to a total of no less than six major programmes.[327]

Overall, the European aeronautics industry provides over 435 000 jobs (direct employment) while subcontractors account for a further 800 0003. In 2001, total turnover was 80 billion euros, with total orders worth some 300 billion euros. Investment in R&D stands at 10 billion. These large credit balances nevertheless mask a significant imbalance: three quarters of turnover is accounted for by commercial orders (private, intra-European) and exports and the remainder by government orders. In the United States, the federal administrations and NASA account for 37% of orders placed with the US aerospace industry. In the military sphere, the imbalance is even more pronounced, with the European military sector accounting for under a third of sales (28%) while in the United States the corresponding figure is 40%.[328]

The aerospace industry is divided into three major sectors; systems and cells; engines and equipment (avionics). There are three main product groupings: aircraft (including

[326] The Future of the European Defence Aeronatutics Industry – Reply to the Annual Report of the Council, 2003, Assembly of Western European Union.
[327] Deviler, D., 2004, Innovation in the Aerospace & Defence Industry – A European Perspective.
[328] Facts and Figures 2001, 2002, The European Aerospace Industry.

helicopters), missiles and space. Military aviation (excluding helicopters) accounts for 26% of turnover. A large part of this (34.8 billion euros) is generated by trade in the aerospace sector, as a result in particular of orders placed by consortia such as ATR (Avions de Transport Régional) and, on the military side, Eurofighter (as part of EADS). In 2001, the governments of the 15 EU member states procured some 20 billion euros-worth of products and services (civilian and military), as compared with the Pentagon's almost 50 billion dollar-investment in aerospace (aircraft, missiles and space) in the same year.[329]

There are today ten or more aerospace firms across the whole of the European Union. From them two names emerge: EADS and BAe Systems. In the early 1990s there were some 30 such firms. Mergers and restructuring in the second half of the 1990s to 2000 helped revive the sector. However, it is still very fragmented. These trends brought the major producers that dominated the European aerospace market, France, Germany, Italy, Spain, Sweden and the United Kingdom, closer together. The European aeronautics industry was thus able to compete with the US industry, in the form of Boeing and Lockheed Martin, on a global scale. EADS is in second place after Boeing and BAe Systems occupies fourth place, behind Lockheed Martin.[330]

Taking European defence constraints market fragmentation, stagnant budgets, lack of a common policy, taking into account, the European industry is by and large very dependent on civilian orders. This lack of a more extensive government commitment makes it extremely vulnerable in the event of a prolonged air transport crisis or a fall-off in investment in the telecommunications sector for example. Such a commitment is only possible at European level since not even the major producers, still nowhere near total convergence themselves, can guarantee the survival and viability of the industry's defence component on their own.

European governments have a major responsibility to pursue and promote restructuring in this sector, where only 1% of firms have more than 10 000 employees and there are some

[329] Final Report of the Commision on the Future of the United States Aerospace Industry, 18/10/2002, available on site: http://www.aerospacecommission.gov.
[330] "Europe or the World", 2000, Economist, Vol. 355, Issue 8165.

80.000 suppliers and subcontractors. It is not so much their number that is the problem as the fragmented and dispersed environment in which Europe's defence aerospace industry is evolving, giving rise to duplication, conflicts of interest, and difficulties over cooperation, and so on. The picture will become more complicated and varied still upon the entry to the European Union of ten new central European states, and later of Turkey, all of which have aeronautics capabilities and potential, such as equipment and handling capacity. Poland and Romania, for example, between them have some 30 firms with a workforce of some 50.000.[331]

Exports are also a very important consideration as regards the future of the European aerospace industry, in both the civilian and military sectors. Exporting passenger, transport and military aircraft is the same as to exporting political and economic influence, something that emerges very clearly in US commercial and political strategies. The lack of an organised, operational ESDP diminishes Europe's capabilities in this area where only two countries have any international network of influence; France with its Mirage aircraft and other weapons systems produced by Dassault and Thales, for instance, and the United Kingdom with BAe Systems established in the United States and the Gulf states.

The aerospace industry is divided into the sectors Systems/Cells, Engines, and Weapons. The scope of military products includes:

- Bombers and transport aircraft, helicopters
- Rockets, satellites, etc.
- Missiles.

Divided into groups of manufacturers, the aerospace industry can be said to comprise systems companies, engine manufacturers and weapons manufacturers. Between the civil and military sectors of the aerospace industry, some components and systems are both

[331] The Future of the European Defence Aeronatutics Industry – Reply to the Annual Report of the Council, 2003, Assembly of Western European Union.

produced and used in both. This applies in particular to the construction of helicopters, engines, rockets and space systems.

Against the backdrop of regional hotspots, vaguely threatening scenarios and asymmetric conflicts, the development of modular structures with flexible deployment units is beginning to play an increasingly important role in new strategy concepts. These models are being used more and more in national defence and army concepts, and some of them are currently in an initial implementation phase. Accordingly, greater interoperability is required of our armed forces, and integrated defence solutions will be required in any future European army, or within the NATO alliance. Specific requirements include the following:

- Reconnaissance, surveillance, command and communication: early warning, earth observation and telecommunications satellites, combat aircraft and drones for information gathering, secure telecommunication networks, encoding systems, radar and detection sensors;

- Power projection: cruise missiles and bombers for precision attacks, fighter helicopters, military transporters, tanker aircraft;

- Survival and territorial defence: air defence and associated rocket systems, bug-proof and interference-proof communication, sensitive security services.[332]

The sophistication of sensor technology together with new missiles and weapons systems has meant that helicopters are increasingly becoming constituent components of new army doctrines and organisational methods. Evidence has shown that the new fighter helicopter models are easy to transport, can be deployed flexibly, and are capable of using high-tech electronics.

To optimise technological solutions, more spending on R&T is needed. According to information published by the French aerospace industries' association (GIFAS), US

[332] Neal, D. and Taylor, T., 2001, "Globalization in the Defence Industry", Defence and Peace Economics, No. 4, pp. 337-360.

spending on military R&D (€41.7 billion) is six times higher than in Europe (€7.2 billion), while R&T spending (€17 billion) is more than eight times higher than in Europe (€2 billion). Moreover, spending on R&T is divided between the different European countries and there is some overlapping.[333]

The European market is still fragmented. There are too many competing products on limited markets (e.g. Eurofighter, Rafale and Gripen). This fragmentation of the market means that financial resources cannot be used as efficiently as they might be, whereas many equivalent capabilities are duplicated. Parallel research programmes lead to the inadequate allocation of R&T resources. The remarkable diversity of European programmes comprises purely national, bi or tri-national, European and also transatlantic programmes. This is due to the high costs involved, especially where aerospace projects are concerned. Indeed, larger-scale civil and military programmes, are almost invariably carried out within a framework of international cooperation. A list of mafor programmes in Europe can be seen in Table 2.4.

Table 2.6 Programmes in Europe[334]

	B	D	E	F	GB	I	L	NL	P	S	TR
Eurofighter		X	X		X	X					
Rafale				X							
Gripen					X					X	
Tiger		X		X							
NH-90		X		X		X		X	X		
Airbus A400M	X	X		X	X		X		X		X
Storm Shadow				X	X	X					
Taurus		X								X	
Meteor		X	X	X	X	X				X	
Galileo*		X		X	X	X					
Skynet 5					X						
Helios				X							

[333] Busquin, P., 2001, "Fast Forward for European Aerospace R&D", Interavia Business & Technology, Vol. 56, Issue 655.
[334] The Future of the European Defence Industry, 2003, EMF Conference, Syndex Report.

In view of ever spiraling development costs, some European countries are opting to take part in existing transatlantic programmes (e.g. JSF, AGS, MEADS) rather than in European joint ventures that will be difficult to implement. The MEADS (Medium Extended Air Defence System) programme may come to be seen as a model with its transatlantic interface function. The USA, Germany and Italy will be involved in MEADS, with the European partners coordinating their activities via the joint venture euroMEADS.[335]

However, one inherent difficulty with transatlantic programmes is the unbalanced nature of the relationship between Europe and the USA, with the latter claiming the leading strategic, political, scientific and economic role for itself.

Willingness to cooperate in joint ventures in Europe is widespread owing to the greater extent of transnational integration there. However, it is clear from dealings with the EU accession countries that the many different attitudes displayed will prove problematic in the process of European integration. Participation by some countries in the JSF programme could mean that there will be insufficient financial resources for the development of a future European bomber.

Aerospace is the one in defence industries where restructuring has progressed the most. In the early 1990s, there were still around 30 companies, but in 2000 two major aerospace companies came to the fore, the wholly British BAe Systems and the multinational EADS (European Aeronautics Defence and Space). In Europe today, there are only 10 major aerospace companies operating in the military sector. But restructuring processes did not have the same effects in all sectors. In the air travel industry, despite the presence of transnational companies and numerous alliances between different companies there is still no real European integration. In the existing duopoly, consolidation would seem particularly necessary in the engine-manufacturing sector. The missile industry is already integrated thanks to the creation of MBDA. In the space travel industry restructuring could continue in the near future via a possible merger between European market leader Alcatel

[335] Smith, J. and Flournoy, M., 2005, European Defense Integration: Bridging the Gap between Strategy and Capabilities, Center for Strategic and International Studies.

Space and EADS Astrium. The following factors are indicative of a need for further restructuring in the European space travel industry:

- Over-capacity on the supply side
- The crisis in telecommunications
- The weakness of institutional markets
- Stiff international competition (USA, Russia, Japan and China).[336]

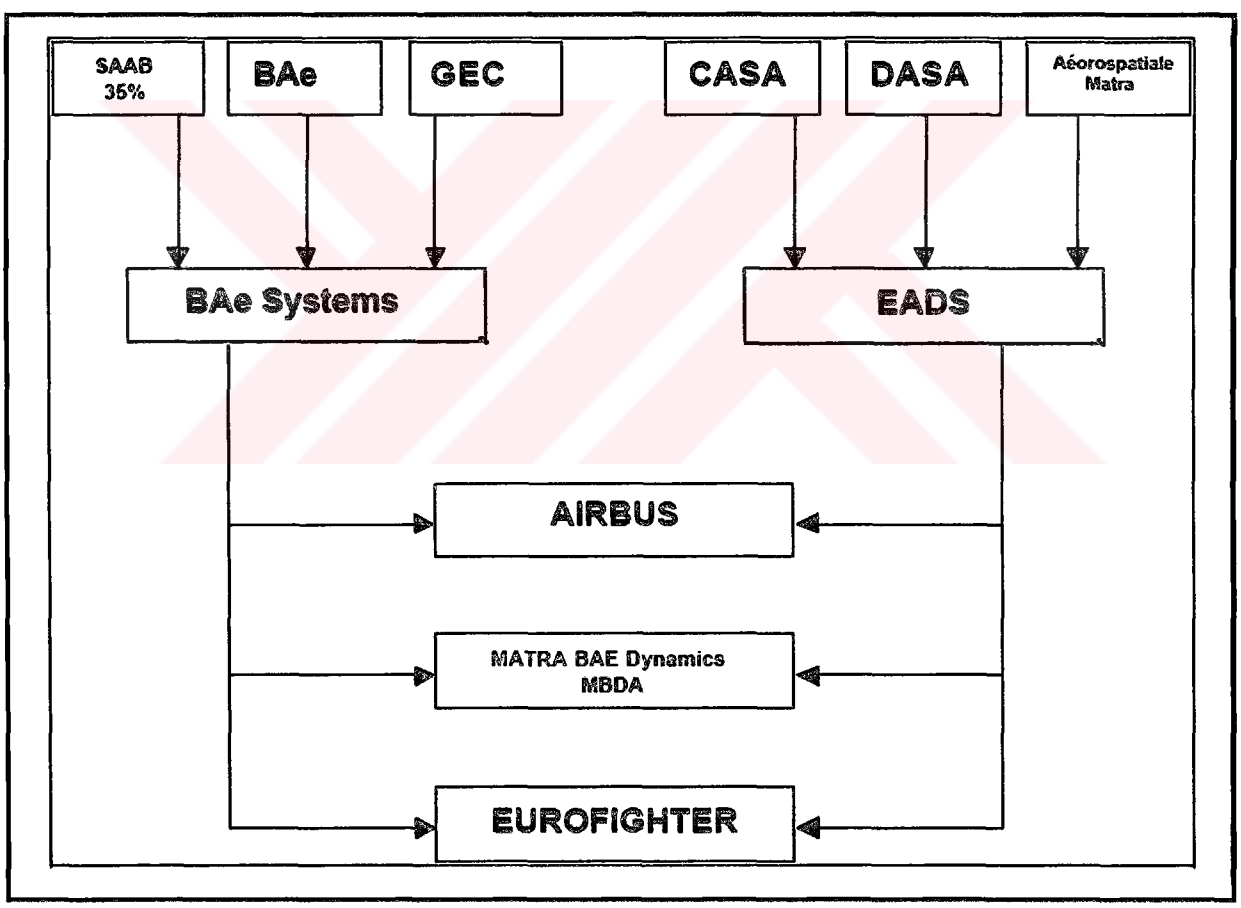

Figure 2. 46 Strategic Cooperation between EADS and BAe Systems[337]

[336] Cook, N., 2000, "Europe Fights to Make up for the Lost Time", Interavia Business & Technology, Vol. 55, Issue 638.

There are a great many joint ventures and transnational R&D and production programmes and projects in the aerospace industry which fall into the compete and cooperate category. In this connection, companies prefer to adopt an additive approach, rather than systematically seeking out synergies. This can be seen from the example of EADS and BAe Systems, who are both competitors and cooperation partners with reciprocal shareholdings (Figure 2.6).

In 2002, a total of 407,800 people were directly employed in the European aerospace industry (compared with over 550,000 in 1990). Of these, 30% were employed in the military sector and 70% in the civil sector. In addition, there are also indirect jobs in suppliers, which according to estimates by AECMA amount to twice the above figure, giving a total of approximately 1.2 million jobs. When broken down by country, more than half of all workers in the aerospace industry in the European Union are employed in Great Britain or France (Table 2.5).[338]

Table 2. 7 Workers Employed Directly in EAI in 2002

Great Britain	117,300		Ireland	4,200
France	104,400		Greece	3,900
Germany	74,900		Portugal	3,800
Italy	39,200		Austria	3,700
Spain	22,700		Denmark	1,300
Sweden	12,000		Finland	1,100
The Netherlands	11,000		Luxembourg	500
Belgium	7,800		**Total**	**407,800**

[337] The Future of the European Defence Industry, 2003, EMF Conference, Syndex Report.
[338] Facts and Figures 2002, 2004, The European Aerospace Industry.

Table 2. 8 Workers Employed Directly In EAI by Product Segment, Sector and Product Application

Product segment	**Air travel**	**Missiles**	**Space travel**
	358,900	16,300	32,600
Sector	**Systems and frameworks**	**Engines**	**Equipment**
	232,446	77,482	97,872
Product application	**Civil**		**Military**
	285,460		122,340

Particularly in the space travel industry, the possible merger between Alcatel Space and its European competitor EADS Astrium could have a significant impact on employment. The European space travel industry will guarantee the creation of jobs. In all, 30,000 people are currently employed in this segment (Table 2.6), working for some 2,000 companies. The market for satellite technologies currently has growth potential of 25%. The planned satellite-supported navigation system Galileo alone could provide 100-150,000 additional jobs in Europe.[339]

Generally speaking, the average level of staff qualifications in the European aerospace industry is higher than the national average in individual countries. AECMA statistics show that 29% of workers in the sector hold a university degree or equivalent (Figure 2.7). Commercial staff, qualified workers trained either within or outside the industry, make up the largest group within this sector (38%).The big question right now is how to maintain R&D skills until structured European programmes have been set up.

[339] White Paper on European Space Policy 2003, European Commission.

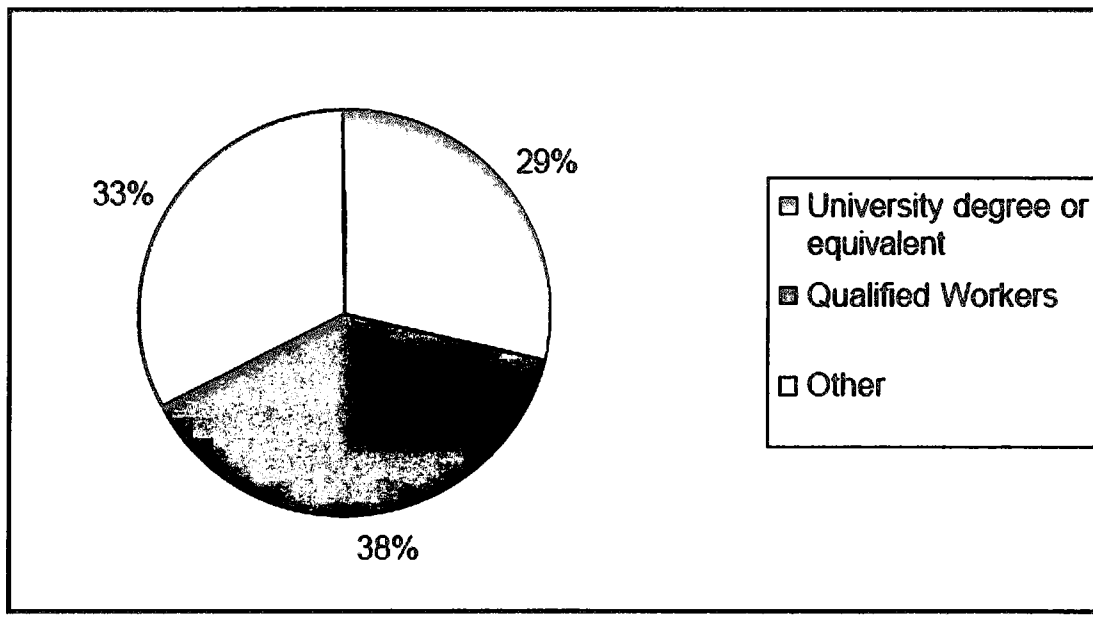

Figure 2. 47 Qualifications of Workers Directly in the Industry

MBDA, a joint venture for missiles, was set up in 2001 by EADS, BAe Systems and Finmeccanica. It is an example of selective cooperation between competitors (EADS, BAe Systems and Finmeccanica). Shareholder structure of MBDA is available in Figure 2.8.

- The company is driven by something between a nationalistic and an integration-driven outlook.

- MBDA also serves as an interface with the transatlantic market and as a player in transatlantic joint ventures within the framework of NATO programmes (e.g. MEADS).

- By virtue of being a global player it strengthens the market position of European companies vis-à-vis US companies.

- MBDA is an example of industrial integration initiated by governments in a bid to safeguard skills in missile technology in Europe via a joint programme (METEOR).[340]

[340] Masson H., 2003, Consolidation Europe's Defence Industries: But then?, p.68.

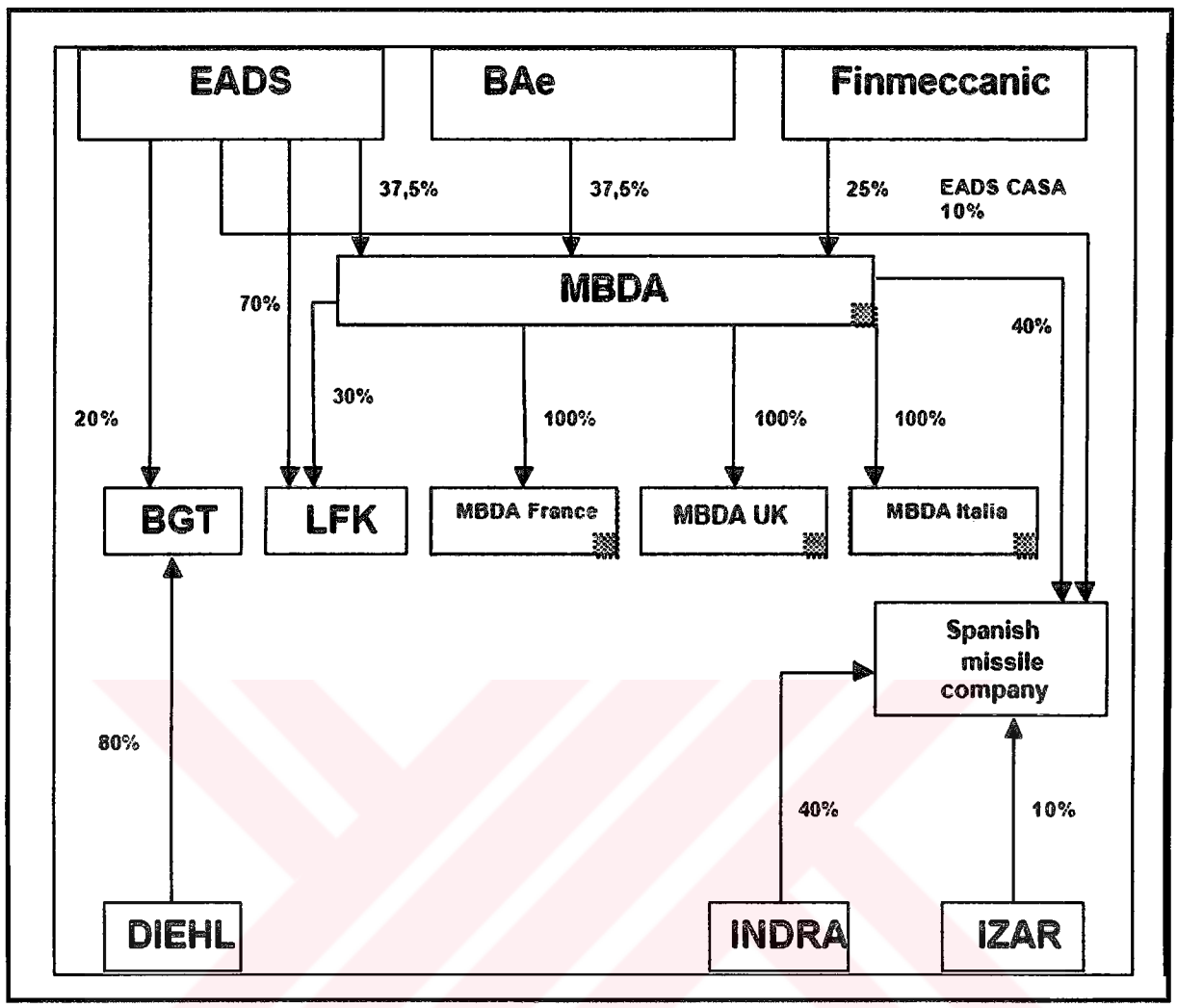

Figure 2. 48 MBDA's Shareholder Structure

2.4.1.4.3.1 EADS (European Aeronautics, Defence and Space)

The most important aerospace and defence company of Europe, EADS, is analysed in a more detailed way here under a different heading in order to understand the consortium. Here, various sectors which EADS is showing interest such as Airbus, military transport and space is all mentioned but great emphasis is given on defence sector operations in detail.

On Dec. 2, 1999, the leaders of France, Germany and Spain witnessed an agreement creating the largest aerospace company in Europe. The European Aeronautics, Defense and

Space Co (EADS) combine the resources of DaimlerChrysler Aerospace AG, of Munich, Aerospatiale Matra SA of Paris and Construction Aeronauticas SA of Madrid. Their combination provides EADS with a workforce of 96,000 and annual revenues of 21 billion euros (US$22 billion) in 2000.

While the European company already has about 2,000 people on its payroll in the United States, including Airbus teams, its corporate headquarters are split between Paris and Munich, directing the work of some 100,000 employees at more than seventy production sites, mainly in Germany, France, the UK, and Spain. Through its financial and managerial control, EADS is a leading launcher of commercial satellites (Arianespace); one of the world's largest makers of civilian and military helicopters (Eurocopter); and guided military missiles. Furthermore, the company is the controlling shareholder in the military aircraft programs of France's Dassault group, maker of Mirage and Rafale fighter planes and in the four-nation Eurofighter combat plane (UK, Germany, Italy, and Spain), which competes directly with the American Joint Strike Fighter, the F35 warplane developed by Lockheed Martin.[341]

	2004 Revenue (€ million)	Principal Businesses	Key Products
Airbus	€20,224	Large commercial aircraft development, production and sales	Single-aisle aircraft (A318, A319, A320, A321), long-range aircraft (A330, A340), A380
Military Transport	1,304	Light, medium and heavy military transport aircraft; military derivatives of Airbus aircraft	A400M heavy transport, C-295 and CN-235 medium transports, C-212 light transport, Future Strategic Tanker Aircraft
Aeronautics	3,876	Eurocopter, ATR regional turboprop aircraft, Socata General Aviation aircraft, Sogerma aircraft conversions	NH-90 military transport helicopter, Tiger attack helicopter, EC120/130 light helicopters, EC135/145/155 twin-engine helicopters, ATR-42 and ATR-72 regional aircraft, freighter conversions
Defense & Security Systems	5,385	Military aircraft, missile systems (MBDA and EADS/LFK), defense & communications systems	Eurofighter, Storm Shadow, ASRAAM, Mistral, Aster-SAMP/T, MEADS, C3I systems, air and naval defense systems
Space Systems	2,592	Satellites, orbital infrastructure, launchers and launch services, space services	Telecommunications and Earth observation satellites, International Space Station, Ariane 5, ballistic missiles, Paradigm

Figure 2. 49 EADS Business Segment Profile[342]

[341] Krause, A., 2002, "EADS Targets US Market", Issue 421.
[342] Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005, Bernstein Research.

Today, EADS is the world's second-largest aerospace defence company, with €32 billion in 2004 revenue. EADS' Airbus unit is now the leading manufacturer of commercial aircraft. In addition, EADS has four other business units producing aircraft, spacecraft and defense and security systems. A brief description of these segments is availabl in Figure 2.9.

Projected revenue and earnings for 2004 and 2009 are shown in Figure 2.10. The most important of the five segments is Airbus, which accounts for about 60% of EADS' 2004 revenue and 82% of 2004 segment earnings. While there are five segments within EADS, Airbus remains the focal point, as we expect the segment to contribute approximately two-thirds of EADS earnings in 2009. We estimate that Airbus revenue will grow at 7.8% through 2009, while non-Airbus revenue will grow at 4.2%, driven primarily by A400M, Eurofighter and Eurocopter revenue. We project overall EADS revenue will grow to more than €44 billion in 2009, with a growth rate of 6.5% from 2004 to 2009 (see Exhibit 114). Earnings should grow more rapidly, at a 7.7% rate from 2004 to 2009 with modest defense and space margin improvement and Airbus margins still near 2004 levels, based on fixed cost-leverage compensating for exchange-rate pressure. Overall EBIT margins should rise to about 9.3% in 2006, but fall back to 2004 levels in 2009 as Airbus hedges roll off.

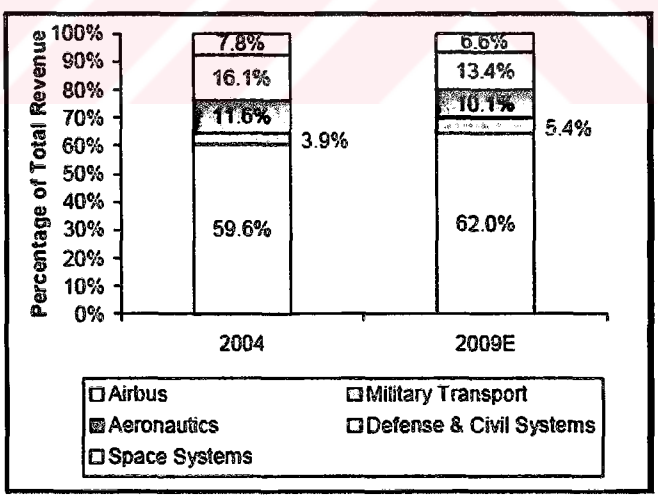

Figure 2. 50 External Revenue of EADS as a Percentage of Total Segment Revenue[343]

[343] Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005, Bernstein Research.

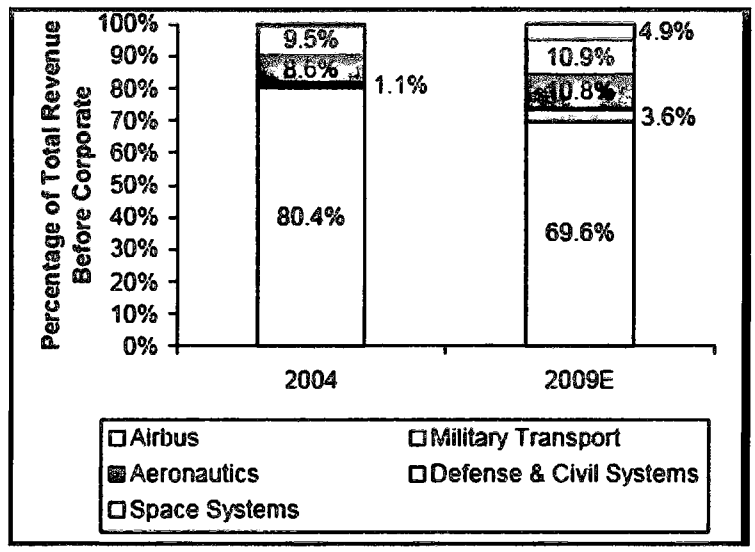

Figure 2. 51 EBITA of EADS as a Percentage of Total Revenue before Corporate[53]

After the formation of EADS in 2000 through the merger of France's Aerospatiale Matra, Germany's Daimler-Chrysler Aerospace, and Spain's Construcciones Aeronauticas groups, thus becoming the world's second-largest aerospace and defense company, after Boeing, EADS has been unable to boost military-related business beyond roughly 20 percent of its total sales, which are expected to reach an estimated $30 billion Managers of EADS hope the deal with Boeing will help erode some of the traditional American hostility to tapping sensitive, European military technology. Therefore, EADS has shared its ballistic missile technology with the US and is supplying helicopters and other technology for the US Coast Guard's $11 billion, Deepwater modernization program.[344]

EADS is determined to raise the military percentage to at least 30 percent of EADS's total sales within the next few years, hopefully, through contracts with the US Defense Department for building the Boeing-led system in Western Europe.

An important focus of EADS management has been to grow the company's defense businesses to diversify the business base. EADS has several strong defense assets, including Airbus as a platform for military transport and tanker development. With

[344] "Europe's EADS to Rival US Contractors", 2000, Corporate Legal Times, Vol. 10, Issue 98.

Eurocopter, EADS has built the leading manufacturer of rotorcraft. MBDA is number two in the world in missiles (although MBDA's product portfolio has not yet been rationalized post-merger, with many competing/overlapping products). EADS should be able to grow its defense businesses and improve margins, but we do not expect the defense businesses to reach management's targeted 10% operating margin by 2006, given the track record to date. We expect that the more rapid growth of Airbus will prevent a significant shift in business mix toward defense over the next five years, with Airbus continuing to represent approximately twothirds of earnings.[345]

A few large programs are key to the defense business, particularly the A400M and Eurofighter. On the development programs (e.g., A400M, Meteor), we are concerned about risk when the programs transition from development to production. Given the fixed-price nature of these and most European defense programs, the risk to margins could be high. The company points to its experience at Airbus, but with overruns on the A380 and the new A340 variants, we remain concerned that military programs may not come in on budget. For the A400M and Meteor, the margin risk is likely two years away, but must be considered.[346]

EADS' defense businesses also face the fact that European defense budgets, which are fragmented, smaller and slower-growing than the U.S. defense budget, are unlikely to drive significant growth. Entry into the U.S. market is a top priority. We understand that there is real interest within the U.S. Department of Defense to introduce more foreign suppliers, particularly given the consolidation that has reduced competition in the United States. However, it will likely take until at least 2008-09 for EADS to make inroads into the U.S. market on a meaningful scale, and there remains Congressional pushback in favor of "Buy America" type of approaches. It is expected that the most interesting opportunities to be those that either are NATO related (e.g., MEADS) or leverage Eurocopter's leading position in rotorcraft. The upcoming military helicopter competition (Armed Reconnaissance Helicopter and Army Light Utility Helicopter) represent opportunities for

[345] Deviler, D., 2004, Innovation in the Aerospace & Defence Industry – A European Perspective.
[346] Matlock, C., 2006,"Why Airbus Cannot Glide on 2005", Business Week Online.

Eurocopter, although each competition will be difficult to win and faces funding uncertainty. Overall, it is expected that revenue outside of Airbus will grow at a 4.2% rate, with margins expanding from 3.6% in 2004 to 6.3% in 2009.[347]

2.4.2 SPACE APPLICATIONS

One of the most important legs of the aviation sector is undoubtedly space practices. Many space practices such as rocket launch, satellite technologies are closely related to aviation sector and these technologies are being improved by the giants of the aviation sector, Boeing, Airbus, which we mentioned before. Although the superiority of the USA in this area is indisputable EU has also made many improvements in this field too. The sector analysis of the EU aviation industry will be completed with the detailed analysis of the space practices. In this section, first of all, the how much improvement has been made in space practices will be analysed. Here, it will be realized that in fact the other countries except the USA and EU don't have any importance in the market and that only Japan, Russia and India have a little amount of efficiency. In the next section, the condition of the sector in the EU will be specifically analysed. Here, the sector will be analysed under two different headings as civil and military enterprises. Finally, where the fast developing EU is in the world market will be observed.

Over the past 40 years Europe has developed significant space capabilities through its spacecraft and launchers and the ground infrastructure to support them. These are now essential tools for the well-being and the security of European citizens. They are keys to many applications in both the civil and the defence fields and their importance continues to grow rapidly. Space applications are making an essential and expanding contribution to EU policies, such as environment, transport, agriculture, and development.

Europe has equipped itself as a space player over the past 40 years with a wide range of capabilities in rocket launch, satellite technologies, space sciences and applications and user services

[347] Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005, Bernstein Research.

Europe's lists of achievements in space sciences and applications, largely delivered through collaboration in the European Space Agency (ESA) and also through national efforts, have established the continent as a competitive actor in many public and commercial markets. Europe enjoys the means to pursue its own space activities in the field of launchers, satellites, space sciences and applications. In addition, it has deployed operational communication systems, has adopted ambitious programmes for satellite navigation, timing and positioning and for earth observation and global monitoring. This base is today relying upon public investment, mostly national R&D budgets, and commercial resources derived from launchers services and telecommunication satellites sales. But space policy has to look forwards not backwards.

New competitors are aiming for strategic positions in space: China is already a force in satellite launchers and has recently successfully accomplished its first human spaceflight. Brazil and India are about to enter the launcher market. Moreover, the commercial market is well below previous levels and increasingly competitive. EU enlargement and the European construction process are generating new needs and demands for space systems. Europe has; therefore, to consolidate the fundamental elements on which a space policy depends for its implementation: access to space, the scientific and technology base and industrial capabilities. This chapter outlines specific recommendations for achieving this goal. Much of the European space industry's potential growth lies in implementation of the EU's policies. The need for the development and exploitation of new space infrastructures and exploitation of existing and new space systems will benefit the overall European space community, and would lay the ground for a competitive and advanced industry able to supply the applications and services for helping to deliver many of the Union's top policy priorities and to be successful on commercial markets.[348]

The strategic importance of space for Europe has been widely recognised. Since the European Space Agency (ESA) was created for European collaboration in civil space activities in 1975, one of its main goals has been to deliver a better understanding of the

[348] Space: a New European Frontier for an Expanding Union, 2003, European Commision White Paper.

earth and of the universe by developing and operating specific programmes. Through such multilateral programmes, combined with national efforts, Europe has developed significant capabilities in spacecraft technology. Similarly, the Ariane family of launchers has been developed to provide an autonomous access to space. In 2000 the European Commission and ESA set out a joint European Strategy for Space and created an EC/ESA taskforce. Two joint programmes are particularly important in the near term, the Galileo global positioning system and Global Monitoring for Environment and Security (GMES).[349]

Space activities include applications of purely commercial interest in the civil sector, especially telecommunication satellites. For the past 10 years, the space sector in Europe has invested heavily to benefit from significant growth generated by this commercial market, while in the US the profitable programmes have been essentially institutional. The recent rapid decline in the market for telecommunications, and consequently in the launcher market, is endangering the European space industry's viability. The decline coincides with a decrease in government space budgets which threatens funding to space agency programmes in Europe.

The European space industry's high level of dependency on the commercial market contrasts with the US, where the major share of income is derived from government-funded programmes. Increasing US public investment in its space industry will continue to put pressure on Europe's industry, global dominance in space equipment and applications is a declared US policy goal. The figures highlight the situation: in 1999, turnover of US aerospace companies from space activities was €33.700 million, of which €26.000 million, more than three-quarters, was funded by the Department of Defense and NASA. European companies, by contrast, had turnover of less than €5.500 million, of which only half came from institutional sources, the rest coming from the competitive, commercial market-place. Moreover, defence programmes have been conducted nationally or bilaterally (and only rarely multilaterally) in Europe, with some major successes but limited budgets, less than 5 per cent of the US total for industry even when combined. Efforts to give more support to

[349] "Europe's National Sapce Agencies Contra ESA", 1999, Interavia Business & Technology, Vol. 54, Issue 635.

European collaborative projects have not so far led to results and their future remains uncertain. As a consequence, in contrast to civil space programmes, there is as yet no structure at the European or multi-lateral level to address Member States' security and defence space technology needs.[350]

If Europe does not respond to these challenges, the consequences will be profound and quite possibly, irreversible. It could lose its independence in key strategic and commercial satellite technologies, such as navigation, communications, or earth observation, both civil and military, as well as in access to space. The EU's choice of policy options and its major industrial role in this strategic high technology field would be put at risk and it would become dependent on others. It could in turn lose its position in commercial and service sectors which depend on space capabilities.

2.4.2.1 Space Sector in the World

When the technological requirements of the communication realm of our modern world are taken into consideration, it will be understood that the space practices are one of the biggest markets of the world. Although both telecommunication satellites and earth observation systems and military practices are high technologies which require astronomical costs, they have become the essential parts for our modern world and the number of such practices is gradually increasing. One of the most important legs of the space practices is the need of R&D. The criterion which determines the advantage of competition is generally the capacity of R&D in this sector which is always open to new innovations. Although it requires high costs the space R&D is situated as a different sector. In this section, the condition of the space practices which are quite important in terms of aviation will be analysed. It will be seen that the main actors in this sector are the USA and the EU and the other actors have very few shares in the market. Thus, the analysis will be concentrated on the relation between the USA, which is a pioneer in the sector for a very long time and the fast developing EU. Finally, how the latest economic situation in the world has formed the

[350] STAR21: Strategic Aerospace Review for 21st Century, 2002, European Commision Report.

space sector and what are the up-to-date trends are in the space sector in this direction will be briefly mentioned.

The value of the worldwide space sector in 2003 is estimated at about 144 billion Euro. This figure includes the institutional budgets of governments and space agencies for space-related civil and military programmes and activities, and the revenues generated by the commercial space applications in the fields of telecommunication, Earth observation, and navigation. The World's institutional budgets for space programmes and activities in 2003 are estimated at about 43.5 billion Euro. Considering the strong depreciation of the US dollar against the Euro, this budget represents an increase of about 11% over 2002 expenditure (expressed in US$). Civil applications represent the larger part of such institutional budgets, with some 25.2 billion Euro (58%), while military programmes have been financed with about 18.3 billion Euro (42%). Three main space powers dominate the institutional market, accounting for about 95% of global public funding for civil space activities (23.6 billion Euro in 2003): the United States, with its about 16 billion US$ space civil budget in 2003 (+8%), Europe11 with about 5.5 billion Euro (-1%), and Japan with 2.4 billion US$ (+18.5%), which benefited from the re-organisation of the public space sector(Table 2.7). Europe is thus maintaining its firm position as the World's second largest space power in the civilian field.[351]

Table 2.9 Civil Space Expenditure by Region

COUNTRY	%
USA	63.7%
Europe	21.1%
Japan	9.6%
Russia	2.1%
India	2.0%
Rest	2.7%

[351] World Market Prospects for Public Space Programs, 2002, Euroconsult.

Looking at the military budgets, they are almost completely concentrated in the USA (17.5 billion US$), which accounts for 96% of the World's public funding. France is the second highest spending country with about 480 million Euro, i.e. 35 times less. The military space budgets for the whole of Europe totaled only 650 million Euro in 2003 (-20%). Comparison of USA, Europe and Japan in terms of civil and military space expenditure is available in Figure 2.12. It remains difficult to analyse the Russian Federation, given the difficulties of comparing economic conditions. Following severe funding cuts suffered in the early nineties by the national space budget assigned to Rosaviakosmos, the Russian Aviation and Space Agency, the situation has been somewhat stabilised from 1995 onwards. Despite Russian economic difficulties, the space programme activities have never been halted and the maintenance of in-orbit spacecraft has never been stopped, even if kept at a minimum level. The space budget for 2003 requested by Rosaviakosmos, and voted by the Duma before the end of 2002 was about 280 million US$.[352]

China and India are emerging space powers with ambitious programmes and growing budgets, but still far from reaching the level of the first three actors.

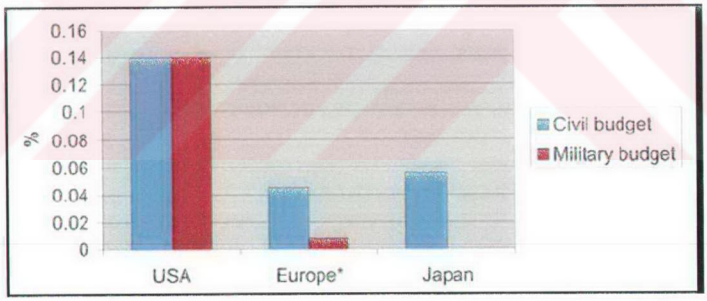

Figure 2. 52 Civil and Military Space Budgets as a Percentage of GDP

Despite the existing large gap between the percentages of GDP invested in space by the USA and by the other two main World space actors, analysts detected a trend to reduce it,

[352] The Space Launch Industry – Recent Trends and Near Term Outlook, 2003, Futron.

particularly in the civil space programmes. For instance, India has made the most impressive progress in increasing its civilian space budget. Between 1992 and 2003, it tripled and in terms of spending as a proportion of GDP India overtook France, spending 0.094% of its GDP on civil space, compared to France's 0.083%. In addition to the public budgets, commercial space applications for telecommunications, Earth observation and navigation are estimated to have generated some 100 billion Euro of revenues (infrastructures and services) in 2003, a 6% decline with respect to 2002 (about 106 billion Euro). This amount does include any of the added-value-chain revenues generated by space services in those fields. The value-added-services market can be divided as follows: telecommunications 37 billion Euro, Earth observation 3.2 billion Euro (considering also the publicly-funded space segment), and navigation 7.3 billion Euro. The same market was about 55 billion Euro in 2002. [353]

Finally, as far as the space industry around the World is concerned, it continued to be affected by the global economical downturn as well as by specific market difficulties, notably in the telecommunications and aeronautical sectors, which are traditionally at least industrially linked to space. About 250.000 persons were estimated to be working in the space industry worldwide in 2002, half of them concentrated in the United States. About half of the total work in the satellite manufacturing industry. The manufacture of ground equipment and the launch industry accounted for some 90.000 employees in 2002. The European space industry employed some 35 000 persons in 2001, a figure likely to be dramatically reduced by job cuts made by companies in 2002 and 2003. Current estimates indicate the European space industry workforce to be around 30 000 employees.[354]

Finally, the European space industry logged about 5.3 billion Euro of consolidated turnover in 2001, according to Eurospace. The same year, the ratio between the total consolidated turnover and the total cumulated turnover, measuring the degree of concentration of a sector, was about 0.7. In 1994, it was 0.4.

[353] State of Space Industry, 2003, International Space Business Council.
[354] Global Analysis of Satellite Transponder Usage and Coverage, 2003, Futron.

2.4.2.2 Space Sector in European Union

As it was mentioned before, the space technologies in the constitution of the EU have recently made many improvements and the share of the EU in the world market has rapidly increased. As the space sector in the constitution of the EU has generally improved in the area of civil applications military applications have a little room in this sector in the EU. But in order to understand the sectors better we should separately analyse the civil and military practices which are different from each other. Thus, the two sectors are observed under two different headings. In the scope of this study, the general situation in the EU, the performance of the member states, the conditions of the various practice fields, the up-to-date programmes in the union are analysed in detail.

Europe is the consolidated second power in space. Public European space expenditure is divided into civil and military activities, although the latter still remains very small (Figure 2.13). Of the Member States, only a few fund military space activities and there are as yet no European military space programmes. In the last year, some co-operations have been initiated between European countries, mainly for the exchange of Earth-observation data.

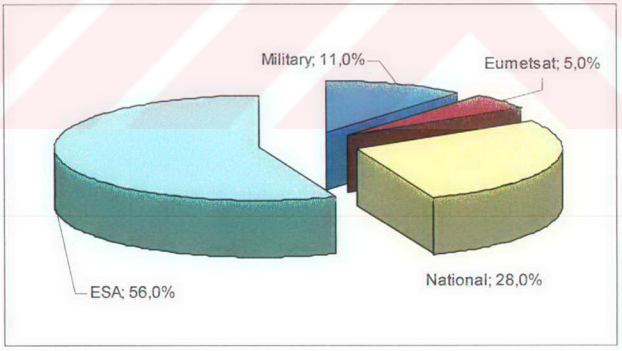

Figure 2. 53 European Public Space Expenditures in 2003[355]

[355] The European Space Sector in a Global Context, 2004, ESA's Annual Analysis 2003.

As far as the nature of funds is concerned, it should be noted that about 80% of the actual European civil expenditure is coming from the Ministries of Research, Science or Technology, compared with about 10% from Trade and Industry, and 11% from others, including Defence for dual-use applications.

2.4.2.2.1 Civilian Space Structural Analysis

Almost 90% of the 6.2 billion Euro allocated by European governments to space activities is dedicated to civilian activities. Shares can be seen in Figure 2.13 and exact numbers is available in Figure 2.14. The European effort is mainly concentrated within ESA, whose budget represents 60% of the overall European civil space funding. Public civil expenditure can be divided into three different categories:

- The ESA expenditure, almost totally based on contributions received from its 15 Member States.
- National expenditure, including national space agencies and other contributions to European organisations like Eumetsat.
- European Commission expenditure on space-related activities, mostly concentrated in the R&D Framework Programmes budget, and the Trans-European Network funds allocated to the Galileo project.[356]

Usually, the R&D Framework programme is planned over a five year period. The 6th Framework Programme activities are planned for 2002 to 2006, with a total budget for space and aeronautics of about 1000 million Euro. Space could benefit from about 30% of this amount. Looking at the past five years, Figure 2.15 shows the fund allocations of European countries in their expenditure on space projects both on a national basis and within the ESA framework.

[356] 2003 European Space Directory, 2003, 18th Edition, SEVIG Press and Eurospace.

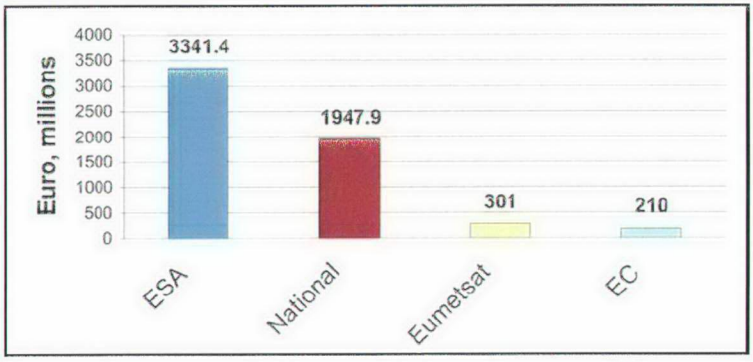

Figure 2. 54 Civil Public Expenditures in Europe in 2003[357]

Earth observation is the area of space in which European countries have invested more in the recent past. The sum of Earth science and applications has attracted 22% of the European investments in space-related programmes and activities (Figure 2.16).Apart from the general running costs, which in total account for some 18% of the European civil expenditure, launchers represent the second largest expenditure for Europe in the period 1997-2001.[358] In 2003, contributions to ESA accounted for about 56% of its Member States' combined civil space expenditures (including contributions to Eumetsat). The main contributors to ESA are France, Germany, and Italy, which funded about 69% of the total ESA activities in 2003.

The same countries represent 76% of the total European civil expenditure on space. Most of the space expenditure by other European countries is associated with their participation in the ESA programmes. Although France is the European country that invests more in space in absolute terms as well as in comparison to its GDP and its population, other ESA Member States demonstrate a surprisingly important engagement in space with respect to

[357] The European Space Sector in a Global Context, 2004, ESA's Annual Analysis 2003.
[358] Space: a New European Frontier for an Expanding Union, 2003, European Commision White Paper.

their size. This is particularly the case for Italy and Belgium, whose investments per capita and in relation to GDP are above the ESA Member State average.[359]

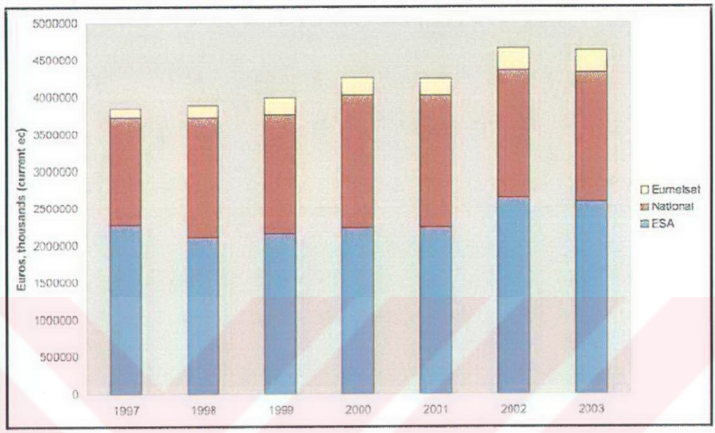

Figure 2. 55 Evolution of Member States' Civil Public Expenditure[360]

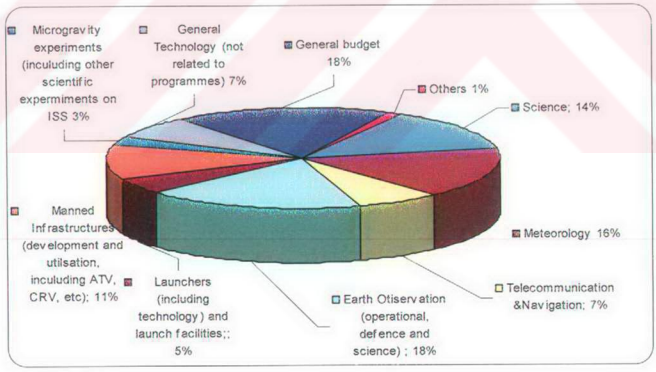

Figure 2. 56 Shares of Public Civil Expenditure per Sector (1997-2001)[361]

[359] Eurospace Facts&Figures – The European Space Industry in 2003, 2005, Eurospace.
[360] The European Space Sector in a Global Context, 2004, ESA's Annual Analysis 2003.

ESA: The European countries' contributions to ESA's budget have remained flat during the last five years (Figure 2.17). On the other hand, the ratio between the Member States' contributions to ESA and the total civil European budget is decreasing slightly, even if is maintained over 50%. There follows a comparison between ESA contributions and specifically national space activity expenditure for the last years. In 2003, according to the ESA Budgets, the Agency spent about 3.3 billion Euro, of which about 366 million Euro was for the Scientific Programme and 2.3 billion Euro for the totality of Application Programmes (launchers, telecommunications, Earth observation, navigation, manned infrastructures, and microgravity experiments).[362]

National Agencies: The estimated public civilian expenditure of the Member States on national or multilateral activities amounted to 1.7 billion Euro in 2003. Almost all of the Member States also have their own national expenditures on space activities and programmes. However, the great majority spend more contributing to the agency than carrying out their national or bilateral activities.

Nevertheless, looking at the national expenditure allocations, it is clear that there are still some activities that European countries consider it appropriate to carry out via separate agreements or even alone. This is the case for certain Earth observation projects and microgravity experiments on board the International Space station (ISS), where ESA Member States invest in bilateral or multilateral programmes almost the same amount of money as they invest through the Agency. In the case of generic technology developments, not directly related to a specific mission, Member States invest nationally three times the amount dedicated to the same field within the Agency's framework. In absolute terms, national Earth-observation projects receive the largest financial contribution, about 370 million Euro, followed by science programmes with about 260 million Euro, and generic technologies activities with 180 million Euro. Scientific activities still remain a large part of the national expenditures. They include the funding of scientific experiments to be

[361] The European Space Sector in a Global Context, 2004, ESA's Annual Analysis 2003.
[362] ESA Budgets for 2003, 2003, Spring Revision, ESA/AF(2003)7, rev.3.

embarked on ESA science missions, and purely national or bior multi-lateral co-operations at European or international level. [363]

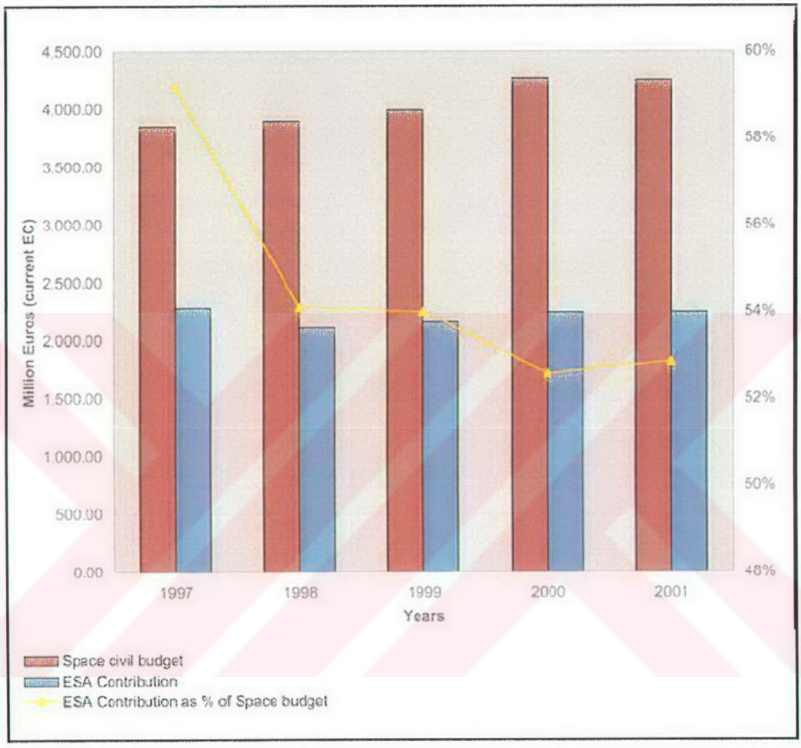

Figure 2. 57 Conributions to ESA as a Function of Total Civil Space Budget[364]

The European Union: In the past, the Community's Framework Programmes (FP) for Research and Development have funded several projects either directly dedicated to space

[363] "Europe's National Sapce Agencies Contra ESA", 1999, Interavia Business & Technology, Vol. 54, Issue 635.
[364] The European Space Sector in a Global Context, 2004, ESA's Annual Analysis 2003.

applications and services or indirectly implying the use of space-related technologies and infrastructure for the scope of the research.

The amount of community funds directly or indirectly dedicated to space varies from one year to another as a function of the number of calls for proposals issued, the quality of projects presented, and their costs. For the last FP5, we can assume that an average of 70 million Euro per year has been spent over the period 1998-2002, making some 350 million Euro in total. With the launch of FP6 (2002-2006), the European Union foresees a Thematic Priority dedicated to Aeronautics and Space, with a global financial allocation of about 1 billion Euro over the period. Space is therefore mentioned for the first time mentioned as a priority within the Framework Programme, and space-related projects will receive in total some 300 million Euro as a contribution from the Commission. Three areas have been identified in the Work Programme: GMES (Global Monitoring for Environment and Security), Galileo, and satellite telecommunications. On the top of such a budget, 450 million Euro from the Trans- European Network basket have been also dedicated to the financing of the Galileo development phase.[365] The total of EC funds actually committed for space are summarised in Table 2.8.

Table 2.10 Total EC Spending on Space-Related Activities

Area	2002	2003	2004	2005	Total
Earth Observation	0	45	30	50	125
Navigation	170	150	100	70	490
Telecommunications	0	15	10	50	75
TOTAL	**170**	**210**	**140**	**170**	**690**

EUMETSAT: Eumetsat, the European Meteorological Satellite Organisation, is an intergovernmental organisation created in 1986 to take over the responsibility for operating

[365] Eurospace Facts & Figures – The European Space Industry in 2003, 2005, Eurospace.

and exploiting the Meteosat satellites, developed and launched by ESA. Today, there are 17 Member States (same States as ESA, plus Greece and Turkey) contributing to the Eumetsat budget according to a GDP-related scale. Eumetsat's budget for 2003 is about 280 million Euro, financed largely through its Member States' contributions.[366]

2.4.2.2.2 Military Space Applications

The events linked to the war against terrorism and to the Iraq crisis have influenced the European process, leading to a common security and defence policy, but the European Union is still far from having a common approach to the military use of space.

Nevertheless, the accomplishment of the so-called 'Petersberg Tasks' relies only in a very limited way on space infrastructure data, which are usually bought by the Torrejon Satellite Centre. Therefore the initiative is still left at national level, without real central coordination. The estimated budget of the European countries for military space activities was about 650 million Euro in 2003. These activities involved only six countries that have declared space projects for military purposes. This budget is almost equally divided between Earth observation and telecommunications programmes, with a balance of national and limited multinational activities.[367]

In spite of the slowness of the process possibly leading to a European common approach to security and defence, the Council High Representative for the Common European Foreign and Security Policy's office has performed an inventory of the European military capabilities. Space capabilities, as the sum of national ones, were included in such an analysis. They include telecommunications systems as Syracuse 3 (F), Skynet 5 (UK), Spainsat (E) and Sicral (I), and observation systems such as Helios 2 and Pleiades (F), Cosmo-SkyMed (I), and SAR-Lupe (D).[368]

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[366] Available on site: http://www.eumetsat.org
[367] Assessment of the European Launcher Industry, 2002, Berlin Technologies and Euroconsult.
[368] Available on site:http://www.commoneuropeanforeignandsecuritypolicy

This capacity, still judged to be partial and not at the same level as that in the US, should be completed by the navigation capabilities offered by Galileo, and by new intelligence, surveillance and early-warning systems.

As in other sectors, the European defence budgets have been suffering from stagnation in the last years and forecasts for the future are not encouraging. On the other hand, efforts to have a common European approach to security and defence issues have not yet delivered the expected results, as noted above.

The space component of the European security and defence infrastructure, in spite of strong pressure from the European aerospace companies, still relies on national capabilities. Some progress has been achieved, notably in the observation field, where France, Italy and Germany have reached agreement on the use of the data coming from their future radar systems (Pleiades, Cosmo-SkyMed, and SAR-Lupe).[369] Budgets for military space programmes five major Member States is available in Figure 2.18. In other sectors, like telecommunications, recent initiatives in Spain, the United Kingdom, and Italy still demonstrate how fragmented the military space scenario in Europe really is.

Nevertheless, current estimates for building up a full European military capability, including infrastructures for telecommunication, observation, navigation, intelligence, surveillance and early warning, quote some 8.8 billion Euro of investments over ten years (Table 2.19).

For the moment, the military space budget for 2003 is estimated at some 650 million Euro, which means about a 20% increase over 2002, but still a 13% decrease compared with 2001.

[369] The European Space Long-Term Plan, 2002, ESA/C(2002)157.

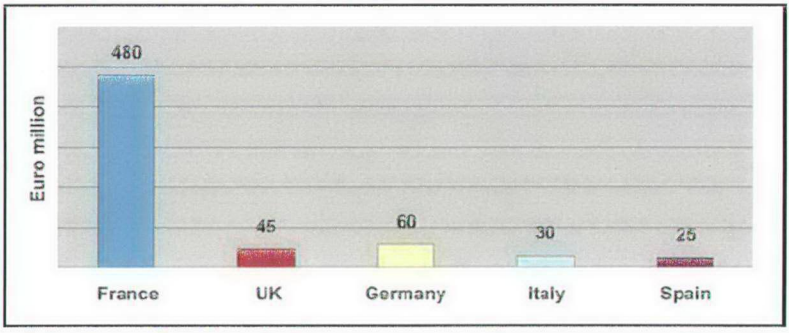

Figure 2.58 European Budgets in 2003 for Military Space Programmes [370]

Table 2.11 Total Cost of a Full European Space Military Capability

System	Total cost (million Euro)
Telecommunications	3100
Observation	2300
Navigation	0
Intelligence	1220
Surveillance	760
Early Warning	1500
Total	**8880**

[370] The European Space Sector in a Global Context, 2004, ESA's Annual Analysis 2003.

2.4.2.3 European Share in the World Space Market

In fact, although as a result of the analysis made so far it is a at a very small extent understood where the EU is in the World Space Market, the situation of the EU will be thoroughly analysed in this section. When the World Companies are taken into consideration, it will be analysed and commented on where the EU companies are in the competition. In order to understand the status of the EU in the World better, the subject's satellites, launchers, services and navigation will be observed independently.

According to the application sectors and value-chain segments for commercial demand, the following markets are potentially accessible to European companies:

- Telecommunication Satellites (manufacturing)
- Launchers (services)
- Telecommunications Services (selling capacity and value-added services)
- Navigation and Positioning (terminals and value-added services).

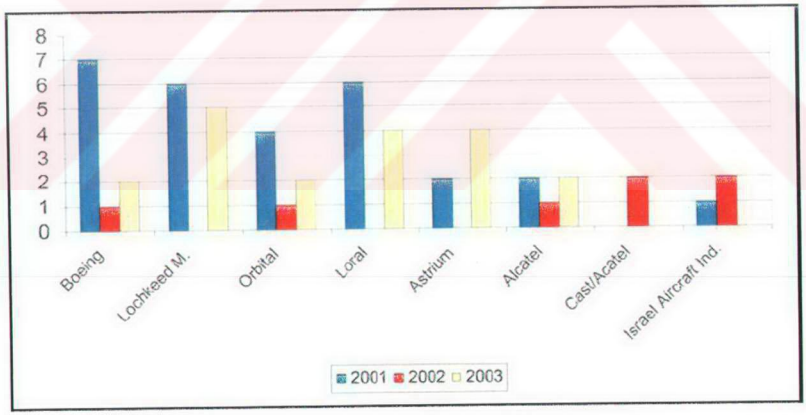

Figure 2.59 Evolution of Satellite Orders Per Company[371]

[371] The European Space Sector in a Global Context, 2004, ESA's Annual Analysis 2003.

As far as satellite manufacturing is concerned, orders in 2003 for commercial geosynchronous (GEO) satellites rebounded substantially, from the very low level of 7 orders in 2002 to 19 in 2003. In 2001, 28 orders were placed for such commercial GEO satellites. European companies (EADS Astrium and Alcatel Space) reported six orders in 2003, i.e. 31.5% of the accessible market.[372] Figure 2.19 shows the evolution in GEO satellite orders over the last three years.

As far as launchers are concerned, three large operators are competing on the worldwide commercial market: Arianespace, Boeing Launch Services and International Launch Services (ILS). Apart from Arianespace, both the US operators also offer Russian rockets commercially. Figure 2.20 shows the distribution of the 2003 commercial launches (total 17 launches) by vehicle family and Figure 2.21 by operator nationality.

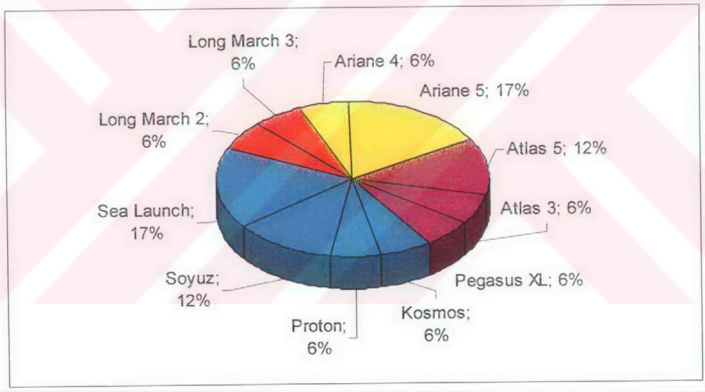

Figure 2. 60 Commercial Launches by Vehicle Family[373]

It is worth noting that in 2002, with over 18 commercial launches, Arianespace secured about 42% of the market (9 launches). In the selling of capacity sector, the four big operators resulting from the last years of acquisitions and mergers, namely SES Global,

[372] Global Analysis of Satellite Transponder Usage and Coverage, 2003, Futron.
[373] The European Space Sector in a Global Context, 2004, ESA's Annual Analysis 2003.

Intelsat, Panamsat, and Eutelsat, owned about 41% of the in-orbit capacity in 2002. SES Global owns 13% of the inorbit capacity, which together with the 8% of Eutelsat, giving Europe 21% of the transponder capacity. Looking at the satellites under construction, 17% have been ordered by SES Global, followed by Panamsat with 6% and Eutelsat with 4%.[374]

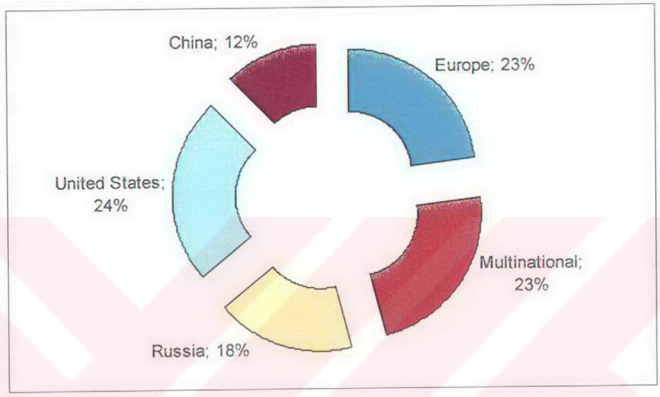

Figure 2. 61 Commercial Launches by Operator Nationality[375]

As far as the satellite navigation and positioning market is concerned, it is largely dominated by US industries for the GPS terminals, with few exceptions, e.g. Europe's Thales which has acquired the Magellan producer.

[374] Satellite Industry Statistics 2002, 2003, Futron for SIA.
[375] The European Space Sector in a Global Context, 2004, ESA's Annual Analysis 2003.

CHAPTER III

ENLARGEMENT OF THE EUROPEAN UNION

AND AIR TRANSPORTATION

3.1 OVERVIEW

The enlargement process of the European Union is a process which has been going on since the first development in 1973.But in 2000s this process has gained momentum and the number of the candidate countries has considerably increased. The reason behind this is the effort of EU to be able to be one step further than the other accelerating the economic expansion process which slows down with the joining of new markets into the union rather than dominating the majority of Europe. On the 1st May 2004 with the biggest enlargement movement seen so far, ten candidate countries were accepted as official members of the EU and the number of the members of the Union has increased to 25.

The impact of the enlargement process upon the transportation sector will be great as it had on the other sectors. The biggest problem with regard to aviation sector will be the necessity of bringing the flight standards in the new member countries to the level of the EU. With the solution of this problem aviation transport is hoping to go a step further by using the advantages of having new markets, new airlines, and cheap and good quality work force. The impacts of the expansion process on the airline industry, which is so important with regard to the EU and aviation transportation is being analysed under a different heading. This issue will be analysed under two main headings as airline and aerospace industry in order to understand the impacts of the enlargement process better. In both of the sections, the current condition of the new members' industry will be discussed, their conditions in the criterion of EU standards will be analysed and how the airline and aerospace industries will be affected by this expansion process will be commented.

The enlargement of the European Union presents a historic opportunity to unite a continent that has been divided for many years and to consolidate peace, freedom, democracy and prosperity in Europe

Table 3. 1 Chronological History of EU Enlargement

Year	Event	Countries
1957	Treaty of Rome	Belgium, France, Italy, Luxembourg, Netherlands, West Germany
1973	First Enlargement	Denmark, Ireland, United Kingdom
1981	Second Enlargement	Greece
1986	Third Enlargement	Portugal, Spain
1990	German Reunification	Former East Germany
1995	Fourth Enlargement	Austria, Finland, Sweden
1998	Launch of the Fifth Enlargement Process:	
	In Negotiations.....	Cyprus, Czech Republic, Estonia, Hungary, Poland, Slovenia
	In Screening.....	Bulgaria, Latvia, Lithuania, Romania, Slovakia
	Other Active Applications.....	Malta, Turkey
1999	Helsinki European Council	All applicant countries, bar Turkey, invited to join negotiations
2001	Laeken Council	All applicant countries except Turkey invited to conclude negotiations by the end of 2002, in order to participate in 2004 European Parliament elections
2002	Brussels Council	Accession negotiations concluded with ten states (Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia). Bulgaria and Romania invited to conclude negotiations by 2004 with a view to joining in 2007
2003	Thessaloniki Summit	Accession Treaty signed by the ten new states in Greece
	Accession Referenda	The nine EU accession referenda end in "Yes" votes
2004	1 May	Ten new states officially join the EU
	9 May	2 states aim to sign the new European Constitution in Rome
	10-13 June	Citizens of 25 states vote in the European Parliament elections

In 1957, six countries, Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany, laid the foundations of today's European Union. Their cooperation evolved and broadened as new treaties were signed, and other countries were invited to join. The first enlargement date was 1973, when the applications of Denmark, Ireland and the United Kingdom were accepted. Greece entered in 1981, followed by Spain and Portugal in 1986,

providing precedents for successful political and economic convergence of considerably less developed countries. The second most recent enlargement was the 1995 accession of the prosperous nations of Austria, Finland and Sweden.[376] Major steps of enlargement since Treaty of Rome can be seen in the Table 3.1.

The most recent enlargement is the major milestone in modern European history that was passed on 1 May 2004 when ten new member states joined the European Union in the largest expansion yet of this supranational institution. Termed the 'AC10' before their entry, the accession countries of Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia transformed the existing EU15 member states into the EU25.

At a stroke 75 million people became new citizens of the European Union, thereby swelling its total population to more than 430 million and the EU's economy to €850 billion (£565 billion or US$850 billion). Further enlargement is envisaged: Bulgaria and Romania are slated to accede in 2007, and negotiations have also begun with Croatia. Turkey's application was rejected initially, but its eligibility was confirmed subsequently by the EU, and the country is optimistic of future accession, although its position is complicated by the Cyprus situation. Albania, Bosnia, Macedonia, Montenegro and Serbia had yet to begin formal negotiations towards possible entry, but had indicated their aspiration for membership.[377]

The enlargement of the EU is a unique, historic task aimed at furthering the continent's integration by peaceful means, extending the zone of stability and prosperity to new members. In general, the citizens in the candidate countries recognize these advantages, even though support for EU accession varies significantly between countries, ranging from 33 percent in Estonia and Latvia to 80 percent in Romania.[378] In order to prepare for

[376] Business Consequences of EU Enlargement, 2003, McKinsey&Company European Business SummitReport.
[377] European Union, 2005, The Economist Inteligence Unit's Country Reports.
[378] Eurobarometer, 2001, European Commision.

enlargement, the EU has reserved EUR 15.6 billion of pre-accession support for the period of 2002 to 2006.

The population of the EU has increased by about 20%, whereas the economic impact of enlargement will be much smaller; GDP has increased by just 5%. The Figure 3.1 clearly explains the imbalance between the population and GDP in the new members. The discrepancy between the impact of enlargement in terms of population and GDP arises because the accession countries are much less wealthy than their EU-15 neighbours.

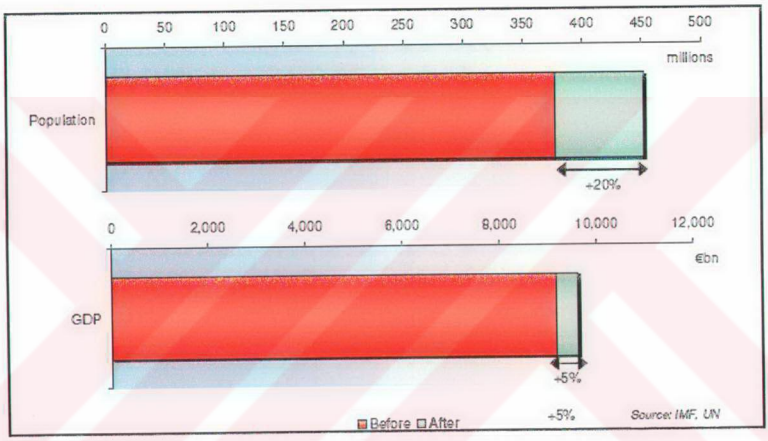

Figure 3. 1 EU Enlargement (Population vs GDP)[379]

Romano Prodi, the President of the European Commission, celebrated the 2004 EU enlargement by proclaiming, five decades after our great project of European integration began, the divisions of the world war are gone, once and for all, and we now live in a united Europe. Current EU enlargement has been driven by two principal desires: to enhance political stability in Europe; and to create a market and trade bloc to rival the USA. The former offers the opportunity to heal the wounds of protracted division that have lasted from the disintegration of Europe after the Second World War, while through the

[379] The Impact of EU Enlargement, Stage 3 – Strategic Implications, 2003, DTZ Research.

integration of emergent economies and their reserves of both skilled and low-cost labour, enlargement may be viewed as a means of delivering growth impetus in an otherwise ailing European economy.[380]

The original European Community was founded in 1957. It comprised just six member states: Belgium, France, West Germany, Italy, Luxemburg and the Netherlands. The United Kingdom, Ireland and Denmark joined in 1973. Greece entered in 1981, to be followed by Spain and Portugal in 1986. Austria, Finland and Sweden were admitted under the last of the previous formal incorporations in 1995 to comprise the EU15. They were preceded in 1990 by the German Democratic Republic in an act of de jure assimilation-by-stealth. Through (re-) unification with West Germany, which was a founder member, the territories of eastern Germany automatically became part of the EU. Thus, the history of European integration is marked by the dual forces of change and continuity.

The order is important: periodic changes in the nature and constitution of the European Community or Union have preceded periods of relative stability as the organisation of European economic, social and political systems both within and outside the new borders of the European supranational body adjust to, and take shape from, the new regulatory frameworks. In many respects, Alphonse Karr's (1808– 1890) famous words were well-ahead of their time and neatly encapsulate the rhythms of European integration: 'the more things change, the more they are the same'. As a function of simple temporal expediency, it is perhaps too easy to dwell on the history of the most recent past. A longer term retrospective reveals that the 2004 enlargement is just the latest in a long, protracted process of European integration. On each occasion, similar sets of critical issues have been discussed among and between the current member states and the potential entrants. There is little to suggest that the future accession of Bulgaria, Romania, Turkey and Croatia, for instance, will not precipitate similar discussions. Comparable scenarios, concerns and

[380] EU Enlargement: Economic Implications for Countries and Industries, 2001, Centraal Planbureau.

outcomes to those associated with previous episodes of enlargement are identified in the following papers, albeit the contexts and settings have altered somewhat.[381]

3.2 AIRLINE INDUSTRY CAPABILITY IN THE EU ORGANIZATION

Enlargement of EU causes significant results for the Airline Industry like for the other industrial sectors. First of all, new member states will be governed by EU legislation and longer by bilateral agreements dealing with the issues covered by that legislation. The most important result of this situation is that new joint countries take places in the Single European Sky. In this situation, both new and older members will have the chance of carrying passengers to each other without dependence of the bilateral agreement. It is not evident that in the long run, this enlarged European Market provides benefits for either older countries or new members. But there is something evident that it is to prevent new member firms' bankruptcy in the race with the older member and stronger firms. For this reason, the standards of these firms should be gotten better and it is required to provide arrangements to protect these firms. Another important subject is that EU will become effective in the giving shape to the policies by providing majority with new members. It is very significant that the union changes this opportunity to an advantage for the long term incomes.

This chapter in which the meaning of EU's enlargement process for airline sector is studied, it is mentioned that airlines of new members, their present situations and opportunities. In the next part, it is touched on the results of the process of enlargement in the point of view both new and older members' airlines and world air transportations.

The European Union welcomes 10 new member states in the largest enlargement in its more than 50-year history. The accession of Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic and Slovenia would have a profound impact on the European aviation industry.

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[381] Coles, T. and Hall, D., 2005, "Tourism and European Union Enlargement", International Journal of Tourism Research, No. 7, pp.51-61.

The additions will lift the union's ranks to 25 countries, with another three candidate countries waiting in the wings to join in the not too distant future. A radical shake-up is inevitable, and the European aviation industry is one of many sectors that are bound to change forever. But it should be considered that the result of the eastward enlargement may be prosperity for airlines and airports in the new and poorer countries, or simply creation of a bigger market for the more prosperous players among the present EU membership.

The agreed accession of Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia will bring EU citizenship to 450 million people. Another 30 million will be added in 2007 when Bulgaria and Romania are scheduled to accede, with a further 70 million if Turkey is eventually admitted to the club. These additions will result in a complex web of air services, with 130 airlines touching down at around 450 airports, with air navigation services across the networks in the hands of 60 providers. [382]

While it may prove to be the industry's biggest challenge to date, the 10 mostly eastern European countries joining the EU will equally provide manufacturers, operators and lenders with unrivalled opportunities. With more than 130 carriers and a network of over 450 airports, the enlarged EU will not only open up new markets for the operators, but also with many operators within the accession countries still flying outdated Soviet-era equipment, it should also boost demand for new aircraft.

When the new members join the EU, the law contained in the EU Treaties will become an integral part of the national laws of the new member states. For the aviation sector this will mean that the new member states will be governed by EU legislation and no longer by bilateral agreements dealing with the issues covered by that legislation. For the airlines of the new member states, this will also mean full exposure to the Third Package, unrestricted competition, limitations on state aid, air service agreements on a collective European basis and inclusion within The Single European Sky. While initially this may prove to be a

[382] Gilman, M. and Broughton, A., 2004,"European Industrial Relations in 2003: A Chronicle of Events", Industrial Relations Journal.

testing period for some airlines, a larger market can only benefit carriers of both existing member states and accession countries in the longer term.[383]

The EU enlargement places aviation Europe before new challenges. It must be ensured that enlargement does not place the new members at a disadvantage, in that richer airlines in western Europe out-compete smaller and less wealthy ones in the new member states. With enlargement, EU member states also form a majority in both Eurocontrol and ECAC, thereby making the EU the dominant partner also when it comes to policy shaping. The European Union is to some extent divided between a supranational inclined European Commission and a Council of Ministers which tends to defend national prerogatives. If it can content itself with formulating overall principles, while leaving practical applications and more specialised tasks to ECAC and Eurocontrol, then this could permit Europe to continue building pragmatically on the impressive results achieved so far. This is also in line with democratic principles, since the Commission is not directly accountable before the peoples of the EU in the same way as national governments are. It is not certain that a non-specialised bureaucracy such as the European Commission, which has so many other tasks to fulfil, can acquit itself better of the complex tasks required than can ECAC and Eurocontrol, which each have built up decades of expertise.[384]

3.2.1 The Major Airlines of the New EU Member States

In Chapter 2, the state of air transportation of EU members is studied. It is required to understand the state of new member countries to acquire the effects of EU's enlargement process. In this part it is touched on the situation of the EU new member countries, main airlines, financial and operational state of them. It is seen that in this countries, airlines are potentially important companies; they can sign on important results under the roof of EU.

The enlargement of the European Union brings new players to an already crowded field. The major airlines of the new 10 member are listed as:

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[383] Internal Market and Sectoral Issues, 2002, The Economist Intelligence Unit European Policy Analyst.
[384] European Air Transport Policies: Crucial Choices at a Critical Time, 2003, Parliamentary Assembly Report.

- Cyprus Airways
- CSA Czech Airlines
- Estonian Air
- Malev Hungarian Airlines
- Air Baltic
- Lithuanian Airlines
- Air Malta
- LOT Polish Airlines
- Slovak Airlines
- Adria Airways

Among the new states, Poland's LOT Polish Airlines is the largest carrier, with 3.2 million passengers carried in 2003. CSA Czech Airlines is in second place and both are now alliance partners of Lufthansa and Air France, respectively. Hungary's Malév, Cyprus Airways and Air Malta follow closely behind and all carried over one million passengers last year. The fact that most of the new entrants' flag carriers are profitable, only Malév, Air Malta and Slovak Airlines made a loss last year is likely to make governments less likely to prop them up financially, which is illegal under EU law.[385]

While the region's two largest carriers, CSA Czech Airlines and LOT Polish Airlines have been drawn into international alliances, flag carriers in the remaining eight states are considering their own no-frills services and are offering flights from third countries, in order to compete in the single aviation market.

Polish flagship carrier LOT is operating between 59 scheduled destinations. It has 3788 employees and 48 aircraft fleet. LOT recently joined the Lufthansa-led Star Alliance in an effort to fend off competition from budget airlines like Air Polonia. In December LOT announced the launch of its no-frills airline, to address the competitive environment in Poland. Financial situation of LOT is available in Table 3.3.

[385] "A New Europe", 27/04/04, Flight International.

CSA Czech Airlines, with 4889 employees and an aircraft fleet of 45, is operating in 50 scheduled destinations. The main objective stated in 2004 strategy is to achieve profitability and efficiency by optimal use of internal resources and to achieve external expansion. The latter will be made possible by fleet renewal and expansion, network development and optimization of membership of the SkyTeam alliance, which CSA joined in 2001. Not to be outdone, Czech state-run airline CSA is looking to take over charter airline Travel Servis and move into low-cost sector.

MALEV Hungarian Airlines celebrated its 50th anniversary in 2004. Founded as the Soviet-Hungarian joint venture 'Maszovlet' in 1946, Malev became an independent company in 1954, adopting its current name, when the Soviet Union relinquished its 50% holding to Hungary. With 2776 employees, a fleet of 28 aircrafts and 58 scheduled destinations, 51 within and 7 beyond Europe, MALEV is one of the largest carriers among the new comers.

Cyprus Airways currently employs 1831 and has 12 aircrafts. Cyprus Airways is implementing a restructuring plan to counter recent poor financial results. The plan will involve job losses, a fleet reduction and network review to achieve cost reductions and improve finances and productivity. Cyprus Airways is planning to acquire 100% of its Greek budget subsidiary Hellas Jet. In 2004 Cyprus Airways increased its holding in Hellas Jet, from 49% to 75%.Although until now they were protected on some of their main routes but those will now be open to competition. Therefore, Cyprus Airways plans to further integrate Hellas Jet and Cyprus Airways operations once full ownership is secured. Privately-owned full-service Helios Airways will also introduce a five-times-weekly service from Larnaca to London Heathrow.

Table 3. 2 Airline Performance in Accession States

AIRLINE PERFORMANCE IN EUROPEAN UNION ACCESSION STATES – 2002				
Country	**Airline**	**Revenues $ million**	**Op result $ million**	**Passengers thousand**
Cyprus	Cyprus Airways	306	5	1,660
Czech Rep	CSA Czech Airlines	517	40.4	3,060
Estonia	Estonian Air	51	n/a	320
Hungary	Malév	409	-18.9	2,400
Malta	Air Malta	155	0.9	1,660
Latvia	AirBaltic	48	n/a	260
Lithuania	Lithuanian Airlines	57	1.1	260
Poland	LOT Polish Airlines	670	27.3	3,220
Slovakia	Slovak Airlines	14	n/a	100
Slovenia	Adria Airways	106	2.9	810
Total		2,333	58.7	13,750

One of the newest low cost airlines, Polish low-cost start-up, Wizz Air, is aiming to capture the expanding passenger market resulting from the country's EU membership. The airline founded by a former chief executive of Hungarian Malev, has its operational base near Katowice, Poland, and started with nine leased, 180-seater planes. Wizz plans to add an additional 10 planes each year and is hoping to operate five or six bases within the next five

years, mainly secondary airports in Central Europe. It launched services linking Katowice to Berlin, London, Milan and Rome using 180-seat Airbus A320s.[386]

Table 3. 3 Airline Performance in Accession States (2003 & 2004)

		2004	2003	% Change
Adria Airways	Turnover	133	122	9,0%
	Operating Profit/loss	3,8	3,9	-2,6%
	Net profit/loss	0,17	0,45	-62,2%
Air Malta	Turnover	219,1	215,8	1,5%
	Operating Profit/loss	9	8,2	9,8%
	Net profit/loss	-34,4	-54,6	37,0%
CSA Czech Airlines	Turnover		673,3	
	Operating Profit/loss		28	
	Net profit/loss	22,9	19,5	17,4%
Cyprus Airways	Turnover	246,9	244,7	0,9%
	Operating Profit/loss	-42,2	-44,2	4,5%
	Net profit/loss	-35,8	-29	-23,4%
LOT Polish Airlines	Turnover	645	642,4	0,4%
	Operating Profit/loss	-3,2	1,6	-300,0%
	Net profit/loss	4	-24,5	116,3%
MALEV Hungarian Airlines	Turnover	125,7	110,7	13,6%
	Operating Profit/loss	-6,3	-9,7	35,1%
	Net profit/loss	-4,8	-13,5	64,4%

In Slovakia, flag-carrier Slovak Airlines has almost shrunk from the market; instead the country's undisputed aerospace success story is SkyEurope Airlines, now the biggest central European low fares airline after only three years of operation. SkyEurope flies to a number of European capitals from its Bratislava base. The airline sees huge opportunities in the region. SkyEurope is well-positioned to serve all four countries, Slovakia, Austria, Hungary and Czech Republic. Poland is the largest country to join the EU, but it is as yet under-served by low-fare airlines. SkyEurope will start its Polish operations from Warsaw, but is negotiating with more airports for additional bases. The airline began flights to

[386] Industry Forecast: Air raid, 2003, The Economic Intelligence Unit Business Eastern Europe.

London, Milan, Paris and Zurich from Budapest. It is investing €20 million in its Polish operation with the aim of carrying 200,000 travelers to and from Poland this year. [387]

Latvian carrier AirBaltic will be the first Baltic airline to take advantage of the opening of the aviation market following EU accession. The carrier has decided to strip its service down to the basics. Main aim is to offer regular air transport from Vilnius for the prices that are competitive not only with other airlines, but also with the prices of buses, cars, trains or ferries

Lithuanian Airlines, meanwhile, the only one of the three Baltic flag carriers to be 100% state-owned, is making fleet changes in view of route developments associated with EU membership. Its two Boeing 737-500s are being used on routes such as Amsterdam, London and Paris, and its turboprops on routes to the former Soviet Union.[388]

Estonian Air, meanwhile, added three additional Tallinn-London Gatwick flights a week from, taking the total to nine.

3.2.2 Enlargement Effects on Airline Industry

It is studied in this part that the meaning of this Enlargement Process is exactly in the point of view of airline industry. The results of this enlargement process are being evaluated on one hand in the point of view of both older countries and new member countries' aviation, on the other hand EU and world.

Air Transportation sector is one of the sectors that some changes will takes places in the point of view on both restructuring and regulatory. New countries' airline and airport standards will be taken to European's standards. But in the result of these works, it is being used of Third Package advantage in the larger market.

The overall consequences of the enlargement process are expected to be more profound for accession countries than for current member states. In candidate countries, enlargement is

[387] "A New Europe", 27/04/04, Flight International.
[388] "EU Debutants Decide To Ditch Frills", 27/04/04, Flight International.

expected to accelerate the annual growth of gross domestic product (GDP) by about 1 to 1.8 percent, which would lead to a total expected growth of around 4.4 percent compared to 2.5 percent for the current member states. With such a growth momentum, the most advanced countries like the Czech Republic should reach the level of low income EU countries within 15 years. Increased trade, higher productivity and additional investments will drive this economic acceleration. Current member states are expected to experience a positive but limited impact on economic growth, caused mainly by a small increase in foreign trade and the arrival of extra labor force. This impact will have a strong variance among the different regions and sectors. Due to their geographical proximity to new member states, Germany and Austria will experience a stronger influence than other member states.[389] As it can be seen in Figure 3.2, Transportation sector is one of the sectors that are intensively effected from the enlargement process. Transportation sector requires high level of regulatory changes and also restructuring. While the widening of the EU could have a long-term effect on aerospace manufacturing, the impact on the air transport sector could be more immediate.

Under EU law, airlines can operate freely within the union, operating flights from any airport as long as slots are available. While this presents opportunities to ambitious central European carriers, it also brings a threat from Western European airlines that will now be allowed unfettered access to their home markets.

The new members will face tough new legislative and regulatory challenges, such as the vexed issue of state aid and onerous competition rules, as well as certain environmental and safety requirements. Obviously, they will not have the luxury of a transition period, as all will have to adhere to the new rules from day one.The accession states add only 5% to the EU economy in terms of GDP and their principal carriers generate collective revenues of under €3 billion ($3.9 billion), only a little more than that achieved by Swiss in 2002.[390]

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[389] Business Consequences of EU Enlargement, 2003, McKinsey&Company European Business SummitReport.
[390] E. Günter, 2004,"New Arrivals", Airline Business, Vol.20, Issue 2.

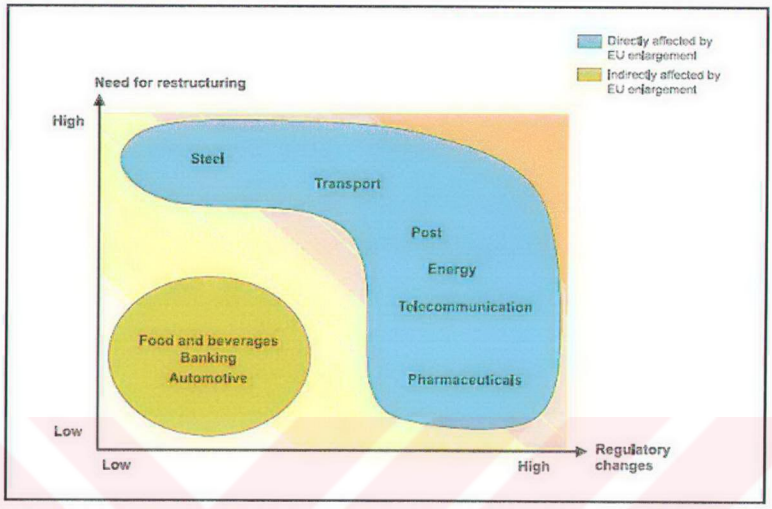

Figure 3. 2 Degree of Enlargement Effect for Several Sectors

While in absolute terms the uplift in GDP is not huge, there will be market opportunities, particularly for Europe's low-cost airlines that are looking to expand to the east. Such carriers as Ryanair, easyJet and others will take advantage of a broader playing field to generate increases in traffic, initially focusing on the larger markets of Poland and the Czech Republic. It is clear that carriers from the existing EU membership will gain an advantage in the initial rush to open new links in the expanded Europe. Several carriers from existing EU states launched routes to the new member countries. However, Austrian Airlines is going further: it is planning to shift some low-yield routes to Bratislava's renamed Vienna Express Airport, 40km (26 miles) over the border in Slovakia from its main hub. The new environment will be more challenging for new-entrant airlines from the accession countries, because they are starting from scratch. Indeed, LOT Polish Airlines already is facing challenges at home from three new local low-fare airlines, which have also set their sights on the Czech Republic.[391]

[391] Overview of Europe's Aviation Industry: Structure and Competition, 2003, ICF Consulting Report.

Table 3. 4 Comparative GDP of AC10 with EU15

State	Population (millions)	GDP per capita (£)	GDP Index[a]
Cyprus	0.8	8333	77
Czech Republic	10.3	8500	60
Estonia	1.4	6111	48
Hungary	10.1	7388	54
Latvia	2.4	4944	39
Lithuania	3.6	4666	45
Malta	0.4	9555	57
Poland	38.6	5388	42
Slovakia	5.4	6888	52
Slovenia	1.9	10666	72
AC10	75	—	—

[a]EU15 = 100.

The availability of inexpensive aircraft will help swell the ranks of new entrants, possible explosion of new carriers can be expected. The Association of European Airlines suggests that removing flag carrier monopoly status will create opportunities for new airlines to enter the fray in several countries. This could destabilise the market in the early years, but it should settle down once the integration process is complete.

In spite of the likely opening scramble and resultant overcapacity, the traffic will probably grow in overall terms, which can be concluded from the experiences of Austria, Finland and Sweden, which joined the EU in 1995 and achieved reasonable levels of growth, with the benefits shared by all three countries.

Newcomers and incumbents have been constrained from serving secondary cities by restrictive bilateral agreements, but the impending enlarged liberalisation area will ensure that new traffic flows will start and expand the market. Routes previously considered untenable will now be opened up. An example is Cracow, in Poland, to Manchester.There can be some limitations in opportunities from secondary cities to main hubs, because of a

lack of capacity in the latter, but there should be no holding back on point-to-point services between secondary cities, as soon as the EU comes out of recession.[392]

With few exceptions, and even these are being rectified, airports in the accession states have excess capacity, which will create openings for start-ups.[393] But it is not going to be a smooth ride all the way and it may be up to five years before air transport in the enlarged Europe has settled into a new order.

With the largest market of the new EU states, low-fare airlines are converging on Poland. Air Polonia is already making an impact on its London services from several Polish cities and intends to add more EU destinations. Wizz Air, founded by former Malév boss, is planning to start services to various European destinations, first from Poland and then from Hungary. It may be joined by Get Jet, another start-up ready to take the plunge. Established carriers from the UK, Ireland and Germany are also likely to start serving Poland soon.[394]

The market in the three Baltic states of Estonia, Latvia and Lithuania is tiny by comparison, but may be consolidated under SAS. Slovakia, following the break-up of Czechoslovakia, has no strong local airline having emerged from Bratislava. The same may be said of Slovenia, although Adria Airways has proven its resilience in the face of adversity.[395]

Cyprus and Malta are mature but specialised markets focusing primarily on the leisure industry. Both Cyprus Airways and Air Malta are hoping to take a greater share, but may be faced with competition from newcomers. The previous struggle by Cyprus Airways in accessing the potentially lucrative Greek market will be eased, and it can also now challenge the many charter airlines that carry the majority of tourists into the Mediterranean islands. Air Malta has already announced new routes within Europe that do not originate in its home country, such as a flight from London to Catania, Sicily, which it will launch the day after Malta joins the EU.

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[392] Enlargement of the European Union, 2003, Export America.
[393] Position Paper on Airport Capacity Required, 2004, Airports Council International.
[394] E. Günter, 2004,"New Arrivals", Airline Business, Vol.20, Issue 2.
[395] L. Linkevicius, 2003,"Life After Enlargement", Baltic Defense Review, No.9, Vol. 1.

Airlines from the accession countries will not find it easy to provide increased frequencies into congested hubs like London and Frankfurt: nor, therefore, to take full advantage of some of the region's higher yielding routes from west to east. New rules on slot allocation could help, but are not yet in view. There are far fewer problems of capacity constraint in the other directions, which will consolidate the advantages for airlines from the present 15-member EU.[396]

Bratislava, Budapest, Ljubljana, Prague, Riga, Tallinn, Vilnius and Warsaw still have spare capacity. At the same time, Prague and Warsaw are building additional terminal facilities, with the Polish airports authority close to a decision that could see a new airport for its capital city. These moves are being made to meet the expected rise in demand over the next 10 years, based on expected growth of 8-10% from accession to the EU. Cyprus selected a private consortium for its two main airports at Larnaca and Paphos and is planning to invest EU350 million in terminal expansion and improvements.[397]

However, there are some more critical issues than the capacity. These issues that have to be confronted are the implementation of directives and other regulations already agreed by existing member states, and the important role European institutions will play in the day-to-day and long-term operation of airports within the accession countries.

The most important of a whole raft of issues that will come under the control of European Union are ground handling, slot allocation procedures, the environment and subsidies. Mechanisms for slot allocation are under review, and may incorporate measures that would further up to 13% of traffic in the sub-750 km (465 miles) sector could be transferred to rail, freeing precious slot capacity. Key revisions are being made on ground handling, including raising the minimum number of competitors to three for airports with over 10 million passengers and to four for 20 million-plus airports. None of the airports in the 10 countries fall into this category, but ground handling will have to be opened up to

[396] R. Turney, 2005, "Polling Europe", Air Cargo World, Vol. 95, Issue 4.
[397] EU Enlargement, 2003, Airports Council International Airport Business.

competition. Most are in control of government-owned airlines, airports or other state agencies.[398]

Airlines from central and eastern Europe reveal low-cost ambitions as they seek to compete with western rivals. Smaller airlines across central and eastern Europe are using enlargement of the European Union to launch no-frills business models and expand their networks in a bid to compete against existing low-fares carriers. The enlargement of the EU has taken in eight former communist states in central and eastern Europe as well as Cyprus and Malta, all became part of the liberalised air transport market. Several low-fare airlines from existing western European EU countries including EasyJet, Scandinavian Airlines' Snowflake and Air Berlin City Shuttle are exploiting European competition rules to start services to destinations previously subject to air service bilaterals.[399]

Analysts predict many of the new entrants' flag carriers will fall victim to an early round of consolidation. Slovenia is pinning its free-market credentials to its mast, refusing flag-carrier Adria Airways' requests for a transitional period of regulatory protection, after the EC declared the country's civil aviation sector problem-free.

Among the Baltic nations, Latvia, Estonia and Lithuania each have their own national airline and, apart from some air freight operations, have no other significant aviation industry. Scandinavian Airlines (SAS) owns minority stakes in Estonian Air and Latvia's AirBaltic and is eyeing a similar chunk of Lithuanian Airlines. In the meantime the three airlines, having been forced to dispose of older ex-Soviet aircraft types to comply with EU noise regulations, are intent on taking advantage of the EU's open skies by starting new routes and adopting a flat fare structure.[400]

For the two more developed accession countries, the situation is equally challenging. Air Malta, for example, operating from a small home base, has decided to exploit its geographically position at the very centre of the Mediterranean Sea by offering flights from

[398] Position Paper on Airport Capacity Required, 2004, Airports Council International.
[399] "EU Debutants Decide To Ditch Frills", 27/04/04, Flight International.
[400] P. Sparaco, 2004, "Transform ASAP", Aviation Week & Space Technology, Vol. 160, Issue 18.

third countries, staring with a route from Catania, Italy to London Gatwick. After being an EU member, flag carrier of Cyprus is planning to own more than 49% of Athens-based Hellas Jet.[401]

However, central and eastern Europe presents another boon for Western European carriers, beyond the enlarged market. Major airlines could use the region to beat the low-cost carriers at their own game. They would start an airline in Eastern Europe and run it as a seat production company. Such a subsidiary would compete on lucrative western European routes, but, by being registered, based and largely crewed in an eastern European country, its costs would be much lower.

Great portion of the passenger market in Europe is looking for low fares. Cheap and willing labour may create a step change in efficiency. There's 10-20% unemployment so generally no union problems and people are willing to work 40+ hours. Airlines are as yet unwilling to take such a bold step. But if Europe's airlines want to get out of the trauma they are in today, they will have to do something different.

Some of the most high-profile state-aid cases recently have concerned airlines, including Alitalia, Aer Lingus, Olympic Airways and Ryanair. Furthermore, the issue is likely to gain even greater prominence on enlargement. The commission officials anticipate a 40% increase in the state-aid workload as a result of EU enlargement.

The accession will bring into the EU many state-owned airlines which are accustomed to receiving support or subsidies from their governments. Once within the EU, these airlines will be subject to the general prohibition that is placed on member states on giving aid that would distort competition. In this regard, to avoid being classified as state aid, any support offered by member states will have to satisfy the market economy investor principle, in

[401] Müller-Jentsch, D., 2004, Transport Sector Reform and Deeper Economic Integration in the Euro-Mediterranean Region, Working Paper 0308.

other words, the terms on which the aid was offered by the state to the airline would have been acceptable to a private investor operating under the constraints of the market.[402]

Alternatively, the support measure would need to be notified to and approved by the European Commission. It is the role of the EC to investigate whether the measure has been made on bona fide commercial terms and is in its nature something that would be available in the open market. The whole amount is regarded as state aid if it transpires that the financial support would not have been available from a commercial entity. With such stringent restrictions, the need for flag carriers to go into the market to seek private funding is inevitable, which should provide valuable business for the banks.[403]

However, in many cases an exemption to the prohibition on state aid has been granted where it has been shown that the aid would result in the promotion of certain economic activities. This has allowed several carriers to receive state aid as part of a restructuring programme. However, such exemptions are only permitted within strict guidelines; for example, the restructuring programme must be capable of restoring the airline's health so that it can, within a reasonable period, be expected to operate viably, normally without further aid; or the aid should not enable the airline to engage in anti-competitive activities, nor be detrimental to the implementation of the EU liberalization rules in the air transport sector. Under such circumstances, the EC is only likely to allow restructuring aid in exceptional cases and under very stringent conditions. The carriers which will therefore be able to rely on governmental help will be few and far between.

Another development which may have an impact on aviation within the EU is the ruling by the EC that certain incentives received by Ryanair at its Belgian hub of Charleroi from the regional authorities were illegal. Although some of the incentives were permissible as part of regional development support for the airport, the airline has still been ordered to repay about £3 million of the subsidies. Smaller airports, which are often government-owned,

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[402] Benson, J. and Powell, M., 2004, "Opening Up Europe", Airfinance Journal, Issue 267.
[403] Piazolo, D., 2001, The Integration Process Between Eastern and Western Europe, Kiel Institute of World Economics Studies Series 310.

have in the past been able to use these incentives (such as reductions in landing fees) to their considerable advantage in generating extra traffic.[404]

These incentives have undeniably been very successful in attracting a large number of passengers to what were previously underused airports, providing an economic boost not only to the airports but also to the surrounding regions. For example, the presence of Ryanair at Charleroi is estimated to have boosted the Walloon economy by about £30 million a year. If the low-cost carriers withdraw from these regions the implications for regional development within the EU may extend well beyond those of the specific case of Charleroi. Following a ruling from the European Court of Justice and the mandates given by the Council to the Commission, the EC is to negotiate on behalf of all member states the full range of aviation trade rules including, capacity, fares, frequency, routes, slot allocation, and airline security. It will be the new accession countries that are likely to benefit the most from this outcome. Individual European states have fewer airports and lower volumes of air traffic than larger nations such as the US. As a consequence, it is usual for that country to have fewer airports and lower volumes of air traffic, which in turn means a weaker bargaining position compared to that of a larger country. It is only through banding together that European states can most effectively optimize their shared potentials and the larger the number of states, the stronger the bargaining position will be.[405]

With 10 new member states joining the EU there has never been a greater need to reform the outdated architecture of European air traffic control. While there has been a constant increase in air traffic control capacity in Europe since 1990, it is trailing behind the growth in air traffic.

The technical improvements made by Eurocontrol, the international organization for the safety of air navigation, have not been sufficient to reverse the trend and delays continue, costing airlines between €1.3 billion and €1.9 billion a year. With many of these delays occurring in central European countries, the package of regulations (February 2, 2004)

[404] "The New European", 01/03/00, Airline Business.
[405] Ivy, R., 2003, "Planning Strategies in Europe's Single Air Market", European Planning Studies, Vol.5, Issue 1.

aimed at introducing common rules on the use of airspace throughout the EU are to be greatly welcomed.[406]

The four new regulations when fully implemented will provide a wide ranging package including: the establishment of the Single Sky Committee ensuring the interests of all categories of airspace users are considered; rules establishing common requirements for the safe and efficient provision of air navigation services; the organization and use of airspace and interoperability within the European air transport management network.

Undoubtedly it will be the interoperability regulation that is likely to impact heaviest on the new member states as it aims to achieve harmonization between the different systems and associated procedures of the European air traffic management network. While the initiative may prove to be very ambitious, its application to all the member states, old and new, should provide a sound basis from which the issue of air delays and airspace congestion can be tackled.[407]

The actual step of joining the EU will probably not be a leap in the dark for the 10 countries. Trade links between the accession countries and the EU have grown substantially over the past decade and a certain amount of competitive sparring has already occurred. However, there will be further benefits from the single market for the 10, such as the enhanced access to funding and financial resources for infrastructure development which EU membership affords. In addition, most accession countries still have low labour costs and land is cheap, spurring on inward investment and technology transfer, which in turn should boost productivity.[408]

The accession of the new member states to the EU come at a very suitable time for the aviation industry. Hit by recession and the September 11, 2001 attacks on the US, enlargement is likely to help the industry emerge from its worst downturn in years, providing not only new markets for carriers but also a stimulus for the manufacturers.

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[406] "EU Enlargement Could Add to Costs", 01/10/2003, Airline Business.
[407] Benson, J. and Powell, M., 2004, "Opening Up Europe", Airfinance Journal, Issue 267.
[408] Palacio, L., 2003 The Future of Air Transport in an enlarged Europe, Speech at the AECMA Convention, Edinburgh.

All countries and their airlines will, however, be vulnerable to more intense competition from established EU operators and at home. For many that will be a new experience. How airlines manage these challenges will determine whether they prosper or fail.

The coming months and years will certainly be challenging and not all carriers are likely to survive the rigours of a competitive market. Yet for those who do, the rewards should be substantial.

3.3 AEROSPACE INDUSTRY DEVELOPMENTS AFTER ENLARGEMENT PROCESS

We have to study on both aviation and aerospace to understand the meaning of enlargement process in the point of view air transportation. Hence, state of airplane production sector (partly defense and space practice) in the new member countries and then the effect of enlargement process on aerospace.

It is a fact that developed countries of Europe will make good use of cheap work force and old Soviet traditional substructure in new member countries at the maximum level. New member countries will make use of Research and Technology programs, state-aids and other funds of EU. But it is not seen possible to sell planes to the airlines worldwide. Hence, it is expected that these firms will work under an agreement such as alliance, merger, subcontraction etc. with other big producers.

The wholesale expansion of the European Union into Eastern Europe in 2004 created new opportunities, as well as stiff competition, for Europe's aerospace industry. Accession to the European Union of countries in Central and Eastern Europe presents challenges and opportunities for Europe's aerospace sector. There is an aerospace industry tradition in countries such as Poland, the Czech Republic and Romania. EU firms have already developed specific business relationships with local companies. Opportunities for risk-sharing and partnership in new programmes have also been discussed. Sharing common standards is key to strengthening the dialogue. Work is already under way with the aerospace industries of Poland and the Czech Republic to share in-depth knowledge and

best practices in areas such as quality control, standardization and airworthiness. Mutual recognition in these fields and compliance with EU standards is a prerequisite to closer business relationships. The goal must be to develop fruitful long-term commercial and industrial partnerships, to pave the way for strong collaboration and integration with European industry and assist the industry in these countries to become effective partners in the aerospace business. The European Union should look at ways of further fostering this integration process, through, for example, support for training in foreign languages or management skills.

Research and technology is an area where the enlargement countries could provide a substantial contribution to the European growth. It can be envisaged that the industrial links already established for many years on aerospace are extended to the research area. Work has already started between industry and the European Commission on this theme and workshops have been organized to initiate the dialogue on R&T. In the research field the accession countries companies and institutes which have R&T capabilities compare favorably to their Western counterparts. They do not suffer from the obstacles sometimes encountered in other areas, like manufacturing quality or technological level of production infrastructures, when benchmarking with Western standards. The aeronautical companies or institutes generally have good capabilities in research, development, static and dynamic testing, certification, as well as calculation and analyses in various fields like: material, structures, aerodynamics, elasticity, etc.... The capabilities that the Enlargement Countries have in research, with their high level of educated and graduated people, could facilitate their application for joining the European Union. Participation of the accession countries in Research programs is a step forward in establishing a strong and long-term relationship between players of both sides. This would create a process whereby the integration will be facilitated through mutual recognition of people and institutions.[409]

The Czech Republic and Poland are the ones that possess an aerospace industry, and consequently have the capabilities to develop joint projects with their Western counterparts.

[409] Fagerberg, J., 1999, "The Need for Innovation-Based Growth in Europe", Challenge, Vol. 42, Issue 5.

Participation in R&T programmes stimulates the whole range of industrial activities, which will together create a more effective system and contribute to share a vision among all stakeholders.

Some countries have unrealistic expectations with regard to their present and future status. The Czech Republic aerospace industry has the ambition to remain in the business as a contractor, although it is very clear that it is no longer in that league. In other countries, such as Hungary, Poland, Slovakia, the managers of the aerospace sector clearly understand that their sector might only be able to play second fiddle in the Western European market.[410]

The accession of new member states and the integration of their defence industry infrastructures into the EU will inevitably have an impact on Europe's defence industry base and the possible creation of a European defence market.The European defence industries are going through a very difficult time with low defence budgets, a sharp cut in domestic orders, the existence of a large number of duplicate facilities and the increased competition from the USA. A further process of mergers, acquisitions and integration within Western Europe might have a long term effect on new EU members. Companies from Central and Eastern Europe that are selected for acquisition and integration will have their future survival assured as part of the European consolidated defence industry. The others might be supported for a while by the state and/or will have to leave this sector altogether.[411]

The importance of new markets close to the EU, the engagement of these countries in EU foreign and security policy agenda and the potential of successfully integrating the ten countries' infrastructures into the EU might strengthen the cohesiveness of the enlarged union, contribute to the emergence of a leaner but meaner defence industry infrastructure and hopefully, enhance co-operation between the defence industries of the EU member states.

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[410] Wall, J., 2004, "Viewpoint", Aviation Week & Space Technology, Vol. 160, Issue 5.
[411] Tagarev, T., 2004, From Downsizing to Modernising Defence in Central and Eastern Europe: Opportunities for SME's, NATO Science Series, Series V, Vol. 43.

3.3.1 Aerospace Industry in the New EU Member States

For better understanding of enlargement's results, firstly it is required to understand the present state of new countries. So, in this part, the present situation of aerospace industry in four new member countries, namely Czech Republic, Hungary, Poland and Slovenia. In other 6 countries, there is no important plane production developed. It is shortly studied that firms in these countries, their states and countries' strategies.

Four new members out of ten, namely the Czech Republic, Hungary, Poland and Slovakia have a profound background in aerospace sector from the Soviet tradition. Entry of these 4 new members, especially the Czech Republic, Hungary, Poland and Slovakia means that they will bring with them important defence industry infrastructures, highly skilled work forces and experience as well as expertise in the design, development and manufacture of military goods that other new member states such as Estonia, Latvia, Lithunia, Cyprus, Malta and Slovenia do not possess. So it will be only focused on aerospace sector in these 4 new members.

3.3.1.1 Czech Republic

According to the country's official information there are 101 aerospace and defence industry enterprises, divided into seven branches: a) Ammunition, armaments and explosives; b) Armoured vehicles and trucks: c) Aviation; d) Command and control (C2) systems: E) Engineering and chemical equipment and f) Research, design and training centres.[412] Despite the considerable number of enterprises, all of them are currently state-owned and unlikely to be privatized in the near future. Only about one-third of the 101 companies are actual manufacturing or research and development (R&D) companies. The remaining two-thirds are companies involved in trading, consulting, testing and promotion, as well as repair firms and others. Approximately half of this third have overlapping

[412] Catalague of the Czech Defence Industry 2001-2002, Prague, Association of the Defence Industry of the Czech Republic (AOP), pp. 16-27.

programmes, leading to inefficient competition, with little ability and will to integrate to become stronger and gain a greater critical mass.[413]

About 10000 employees work in forty state-owned manufacturing companies in research, development and project offices in the Czech aviation industry.[414] Undoubtedly, the most important company is the Odolena Voda-based Aero Vodochody AS that manufactures AT and LCA such as the L-39/59/159. The company is owned by the government (65 percent) and the US Boeing local affiliate, Boeing Ceska (35 percent). Jane's Defence Weekly noted that the government decided in early February 2004 to buy back the 35 percent stake held by the US Boeing local affiliate, Boeing Ceska.[415]

In addition to Aero Vodochody, three other facilities are worth mentioning. They are Ceska Letecka Servisni (CLS) AS, provider of avionics upgrades for military and commercial customers; Letecke Opravny Malesice (LOM) SP, manufacturer and repairer of aircraft engines and helicopter gearboxes and Letecke Zavody (LZ) AS, the training and transport aircraft manufacturer.

There is evidence that the present state of the aerospace sector is not satisfactory. It is also clear that forty state-owned companies will have no place in the post-accession Czech aviation industry sector. Although the Czech government is fully aware of the problem it has done very little to change the situation. The Czech Aero Vodochody AS does some work for companies based in North America but so far has no agreement to work with any western European company. The recent decision to lease Swedish-built Gripen aircraft may change the current situation.

To conclude, the Czech aerospace industry complex mentioned above and its enterprises remain uncompetitive. There are too many enterprises and too many employees, the complex remains non-viable and financially unprofitable. In addition, the Czech government's excessive preoccupation with Aero Vodochody AS's past and present

[413] Fucik, J.,"Comments on the Consolidation of the Czech Armament Industries and Their Ability to Participate in Trans-National Programmes", in NATO Co-operation, p.47.
[414] Available on site: http://www.aiv-cr.cz
[415] Jane's Defence Weekly, 25/02/2004, p.15.

operations has diverted the government's funds and attention away from the rest of the industry. Thus, the current situation within the defence industry as a whole remains grim and uncertain. As a result, there is very little interest from Western European companies in the Czech Republic aerospace industry. The integration of the Czech aerospace industry into the EU will be very difficult and time consuming.

3.3.1.2 Hungary

There is only one privately owned company, the Tököl-based Danubian Aircraft Company (DAC). It was no accident that the four companies under Ministry of Defence ownership receive many of the state orders.[416] The industry is currently divided into two branches: Aviation and Electronics and Optronics. However there are no Hungarian companies manufacturing large equipment such as aircraft, or radar.

The Danubian Aircraft Company maintains, overhauls and upgrades Hungary's Soviet-built MIG-29 aircraft, in addition to Hungary' Mil helicopters (Mi-2/8/17/24) and Aero Vodochody L-39 aircraft.[417]

Electronic Directorate Company Limited's main activities for more than ten years were focused on projecting, developing integrating and exporting electronic warfare systems. In recent years the company has redirected its activities towards computer technology and electronics.

To conclude, the Hungarian aerospace industry in its present form is facing a grim future as its domestic market is very small and unlikely to expand in the future. In addition, it has no agreement to work with any Western European or North American companies. The government officials' hopes of working together with Western companies have not been realized as yet. Nonetheless, the potential for integration of the Hungarian aerospace industry into the Western European industry's infrastructure is much greater than that of the

[416] Interview with Dr. Geza Peter Kovacs, 10/04/2003, Hungarian Defence Industry Association. Available on site: http://vedelmiipar.hu
[417] Kogan, E., 2005, EU Enlargement and Its Consequences for Europe's Defence Industries and Markets, Paper 40, Bonn.

Czech Republic. The Hungarian aerospace industry as a whole is compact and employs a small number of skilled workers. However, this also means that the Ministry of Defence (MoD) companies need to be privatized and restructured before it can be integrated. So, even if the rest of the industry is integrated, the MoD enterprises in their current form will not. As a result, whether or not the MoD enterprises are included remains more with the Hungarian government than it does with a potential Western European company.

3.3.1.3 Poland

ETC-PZL Aerospace Industries Sp z.o.o is the major aircraft and helicopter manufacturer. Polskie Zaklady Lotnicze (PZL or Polish Aviation Factory) Mielec Company Ltd (former PZL Mielec) manufactures agricultural, fire-fighting, passenger, transport and military trainer aircraft. WSL PZL Rzeszow SA manufactures aero-engines. PZL Swidnik SA manufactures commercial and military helicopters, sail planes, and subcontracts work for Western European companies, PZL Warsawa-Okecie SA manufactures multi-purpose craft, and agricultural and military aircraft.

On 28 August 2001 the Polish MND signed a $US212 million contract with European Aeronautic Defence and Space (EADS) Company-Construcciones Aeronauitcs (CASA) SA to acquire eight C-295M transport aircraft. Under the terms of the agreement's offset package, EADS-CASA SA has agreed to buy a 51 percent stake in the PZL Warsawa-Okecie SA factory, retaining its present number of seven hundred employees until at least late August 2003, install new production equipment and pay off part of the company's debt to the Polish Ministry of Finance. EADS will later, when is for the time being unknown, increase its shareholding to 85 percent in the Polish company, which will act as the primary in-service support and maintenance facility for the Polish Air Force and Air Defence's C-295Ms. The remaining 15 percent will be owned by the employees. For the time being 34 percent of the company remains in the hands of the government.[418]

[418] Jane's Defence Weekly, 5/09/2001, p.19.

Poland has selected Pratt and Whitney Canada (P&WC) over Fiat Avio of Italy to be the strategic investor in the privatization of the aero-engine manufacturer WSK PZL Rzeszow SA.[419] In March 2002 P&WC bought 85 percent of the Polish company. The remaining 15 percent continue to be owned by the employees.[420]

In conclusion, despite being the largest aerospace industry within Central and Eastern Europe and having extensive co-operative projects with Western European companies, the industry is by-and-large facing similar similar problems to those of the Czech Republic and Hungary. It remains overstaffed, although compared with the Czech Republic and Hungary it is currently in the process of shedding a large number of employees.

3.3.1.4 Slovakia

In the framework of the consolidation process that took place after 1998 (parliamentary elections and a change of government), on 3 March 2000 forty major aerospace and defence companies established the Association of the Defence Industry of the Slovak Republic (ADISR). ADISR is a kind of lobby group that pursues tha country's defence industry intersests, namely facilitating research, production and modernization of the industry.[421]

Slovak aerospace industry must adapt its research, development and production methods and technologies to the relevant Western European standards. This is necessary not only because of the goals and needs for the armed forces, but also in view of potential business opportunities in NATO and EU countries.

The aerospace sector's is able to make a limited upgrade of aircraft and helicopters. It consists of two influential enterprises and one research facility. Letecke Opravovne Trencin (LOT) SP, which is responsible for the overhaul of all the Slovak Air Force aircraft and helicopters, and Povazske Strojarne Letecke Motory AS, manufacturer of aero-engines. The

[419] Available on site: http://www.warsawvoice.pl/old/v701/Business06.html
[420] Military Technology, June 2002, p.8.
[421] Korba, M., 2001, Armed Forces of the Slovak Republic-Model 2010, Independent Report, p.9. For details on the ADISR, see http://www.zop.sk/

Vojensky Letecke Technicky a Skusobny Ustav (VLTSU) is a military aviation technical and testing institute in Kosice.

3.3.2 Effects on Aerospace Industry

In this chapter, it is examined that effect of enlargement process on aerospace. Economic Implication of enlargement is studied in the different point of view such as labor, profitability and explained their results in the point of view of both existing countries and new member countries. Here, also some suggestions are given places on how EU changes this situation into advantage and go to the fore in the world market.

The European Union has gone through an historic enlargement when eight former Communist and two Mediterranean states join the 15-nation alliance. The move, which increased the population of the union from 378 million to more than 450 million, will have major implications politically and economically, not least for the aerospace industry.

The Brussels-based Aerospace and Defense Industries Assn. of Europe (ASD), which was created out of the AECMA aeronautics association, the EDIG defense group and the European space industries association has already accepted three new members Poland, the Czech Republic and Hungary and plans to bring in a number of others. In addition, several nations in the region, including the Czech Republic, have shown an interest in joining the European Space Agency.[422]

There's a dearth of reliable information for the aerospace/defense industries in the new EU. Based on available ASD data, the area includes 100 or so companies with 50,000-60,000 employees and generates around $2 billion in annual sales. This compares with more than 800 companies with annual revenues of roughly $120 billion in the current ASD membership.

The bulk of the manufacturing capability lies within two countries. The Czech Republic has 36 aerospace/defense companies, only seven of them sizable, employing 9,200 people, and

[422] Taverna, M., 2004, "East Meets West", Aviation Week & Space Technology, Vol.160, Issue 19.

generates annual sales of $420 million, according to ASD figures. In Poland, there are 21 aerospace contractors employing 10,500, and perhaps an equivalent amount in the defense industry.[423]

Eastern Europe has recognized niche capabilities, especially in helicopters, training, utility and light aircraft, and engines, in which it formerly specialized under the command economy setup that prevailed within the Soviet Bloc. The region features a wealth of small businesses and a pool of affordable trained labor that, if given access to advanced technology, could add significantly to the EU supply chain. Moreover, the region has already become a major source of aerostructures and components to Western companies such as Boeing and Airbus. Polish helicopter maker Swidnik is supplying fuselage sections to Agusta Westland.[424]

The EU's central tenet, free movement of labour and goods among members - have spread to the Central European countries of the Czech Republic, Hungary, Poland, Slovakia and Slovenia; former Soviet satellites Estonia, Latvia and Lithuania; and the island nations of Cyprus and Malta. In theory this will make it easier for manufacturers to transfer work to lower-cost countries in the east and for skilled aerospace engineers, pilots and air traffic controllers to compete for jobs in the west. It will also mean state-owned airlines and aerospace concerns in the accession countries must now abide by the EU's laws on state aid, competition and labour.

The transformation of local industry so that it can operate in a market economy is underway, but the pace and approach differ from company to company. Among those that have fully or partly privatized and added foreign investors are Polish engine maker Rzeszow, in which Pratt & Whitney is a partner; Poland's Okecie (EADS); trainer/ light attack aircraft maker Aero Vodochody of the Czech Republic (Boeing); and Romania's Brazov (Eurocopter). However, conflicts between the interests of governments fighting to maintain programs and jobs, and foreign partners anxious to prioritize programs and cut

[423] Guyot, M. and Vranceanu, R.,2001, "European Defence: The Cost of Partial Integration", Defence and Peace Economics, Vol. 12.
[424] Schmidt, P., 2004, EU Enlargement and Armaments, Occasional Paper.

costs, have led to disappointments, as shown by the pending divorce between Boeing and Aero Vodochody. To avoid such problems, some local contractors, such as Swidnik, have opted to remain under state ownership. On the other hand, certain foreign investors, such as Snecma in Poland, have preferred to set up greenfield operations.[425]

The biggest problem facing eastern European manufacturers, which they share with the ex-Soviet Union, has been the fact that much of its production is ill adapted to market requirements. Swidnik, Aero Vodochody, Slovakian engine manufacturer Povarski Strojarne and regional/utility aircraft builder Let, which briefly attracted the interest of Fairchild and Ayres of the U.S., are cases in point.

One of the few programs designed with the international marketplace in mind is the Ibis Ae-270, developed by Aero Vodochody with Aerospace Industrial Development Corp. of Taiwan. It's hoped that EU integration will result in further involvement with Western manufacturers that can bring the marketing know-how, technology and financial resources needed to push new products.[426]

If the industrial contribution of the new EU nations remains a question mark, their 105 million inhabitants, even with per capita income running one-third or less the EU average, represent a sizable new market for makers of defense and aerospace hardware.

For the time being, the decidedly pro-Western bent of governments in the region has not translated into a headlong rush to buy American. Poland opted for Lockheed Martin F-16s, but it appears set to tap BAE Systems to modernize its Mi-24 helicopters. Saab's Gripen has won out in fighter competitions in Hungary and the Czech Republic. Czech and Hungarian industry groups are part of the TIPS consortium, led by EADS, selected late last month to supply NATO's alliance ground surveillance system.[427]

All of the major airlines have mainly Western aircraft-type fleets already, but a number of smaller carriers still fly obsolete Soviet-era equipment, and fleet renewal for some is

[425] "A New Europe", 27/04/04, Flight International.
[426] Taverna, M., 2004, "East Meets West", Aviation Week & Space Technology, Vol.160, Issue 19.
[427] European Economic Summit, 2004, Executive Summary, World Economic Forum, Warsaw.

becoming an urgent priority. LOT Polish Airlines is starting to look at a requirement to renew its long haul Boeing 767 fleet. But with long-haul traffic being directed more and more through their Western partners' hubs, Eastern Europe appears to be a more promising market for regional aircraft manufacturers. LOT itself recently began taking delivery of Embraer 170s, and CSA Czech Airlines, too, is seeking to replace its regional aircraft.[428]

Airlines are also expanding into overhaul and maintenance. Malev and Air Malta have opened MRO facilities in partnership with Lufthansa Technik. LOT wants to become a regional Embraer maintenance center

These countries often cite the example of Ireland, which was transformed from a largely agrarian economy to the Celtic tiger of the 1990s, a world leader in IT and pharmaceuticals: its citizens' income soared from 60% of the EU average in 1973, to 120% today. Other poor states have faired less well, however. Since joining in 1981 Greece's GDP per head is unchanged compared to the EU average, while Portugal's boom and bust has left it only slightly richer.Ireland has become a major player in aviation maintenance, repair and overhaul (MRO) and many believe this will be the accession countries' strongest hand. The fact that 70% of maintenance costs are labour means countries with lower wage rates and the necessary skills have an obvious advantage. It is a phenomenon that is hitting Ireland's own MRO sector. Ireland is not the low-cost economy it once was and lots of repairs are being done in eastern Europe, Asia.[429]

Low labour costs and flexibility may be the new member states' largest asset, especially considering most eastern European maintenance centers will be fully compliant with Joint Aviation Requirements (JARs). Airline maintenance departments moves work to new member states. Setting up in these countries would provide higher staff productivity and 20-40% lower costs.[430]

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[428] Aerospace within the European Research Area – Accesion Countries, 2001, European Association of Aerospace Industries.
[429] "A New Europe", 27/04/04, Flight International.
[430] Internal Market and Sectoral Issues, 2004, European Policy Analyst, The Economist Intelligence Unit.

Public enthusiasm for Europe in the new member countries is high, partly because of the history of oppressive Soviet domination but also because most people believe the economic opportunities vastly outweigh the inconveniences of sticking to the Union's rules. The biggest challenge the new entrants could face is in modernising work practices. Without this, the lure of cheap labour will not be enough to attract companies from western Europe.

Under communism, airlines tended to hold large inventories of spares and have scores of underused aircraft. It means a just-in-time philosophy has taken a long time to develop among component manufacturers and maintenance operations. Another problem is employees' lack of English. Until the 1990s, Russian was the second language of eastern European aviation industries. The workers will need substantial training in English as they must not only speak the language, but also understand complicated maintenance manuals.[431]

Of the accession countries, the Czech Republic and Poland both have established aircraft manufacturing industries and Hungary has been involved with space projects for decades. AECMA has already admitted the Czech and Polish aerospace manufacturing associations, which are by far the two largest aerospace and defence manufacturing nations among the accession states, although the association has an aim of signing up national associations from all 10.

AECMA figures show that Poland is the biggest aerospace player among the new members, with 10,500 people employed by 21 companies, followed by the Czech Republic with 36 aerospace companies employing 9,200. Western European countries already have significant investments in the region. Boeing currently owns 35% of Czech manufacturer Aero Vodochody, while Lufthansa Technik has subsidiaries in Hungary and Malta. EADS acquired Polish manufacturer PZL Warszawa-Okecie in 2001, renaming it EADS-PZL, and

[431] Sparaco, P., 2004, "Europe Revamps", Aviation Week & Space Technology, Vol. 161, Issue 8.

its Eurocopter division has manufacturing facilities in Romania , a candidate along with Bulgaria to join the EU in 2007.[432]

Joining the European free trade zone will boost new members' economies much more than those of existing members, since 70% of accession countries' exports go to the EU, compared with only 4% in the opposite direction. The effect of customs-free exports could boost accession states' GDP by up to 10% in the short- to medium-term. All have pledged to adopt the euro as their currency once they meet the conditions laid down by the European Central Bank. This will further integrate them into the European economy.[433]

One opportunity that will open up to the aerospace industries of the new member countries is the EU's research and development funding. AECMA's AeroSME project aims to guide small firms through the sometimes labyrinthine application process. AeroSME workshops, held so far in five new member states, are usually led by a large airframer. Companies in the new member states are still on the learning curve, but at least now they have access to information about the EC research framework.

One of the first opportunities new members will have to bid for grants will be an anticipated €65 million ($78 million) three-year security research programme set to be launched this year, which could lead to full scale security projects worth around €16 billion a year from 2007. The Czech Republic in particular has good capabilities in parapublic aerospace projects and politically these projects would also be of interest to the new members. There is also a Seventh Framework programme (FP7), which is expected to be substantially larger than the current FP6, which allocated €875 million of funds to aeronautics and €270 million to space projects.[434]

As members of the EU, the accession states will automatically become members of the new European Aviation Safety Agency (EASA). This will affect certification procedures for aircraft. Compliance with EASA certification standards will seem to be easy, since most

[432] Available on site: http://www.aecma.org
[433] Sandler, T. and Hartley, K., 2001, "Economic Lessons for Collective Action", Journal of Economic Literature, Vol. 39, No. 3, p.869-896.
[434] "A New Europe", 27/04/04, Flight International.

new members have adhered to Joint Aviation Authorities' standards for several years. However, a main concern is the merging of Czech airworthiness body UCL's aircraft approvals process into EASA's. In the initial period, the certification process will be longer and more expensive. But this could be offset by the fact that an EASA approval will be valid all over Europe, which will lead to instant sales throughout the continent as well as eliminating extra costs associated with obtaining individual national certification.[435]

Policies that encourage dynamism and transition, that encourage open markets and competition will create economic motion that's essential to the well-being and standard of living for all EU citizens. Policies that slow transitions from old to new, that encourage stability instead of change, that create regulation without clear understanding of ramifications create dreaded economic inertia that ultimately damages the most, the people we are seeking to protect. In this changing environment of EU in the enlargement process, it is obvious that the future of aviation and aerospace sectors will be shaped according to following statement of Charles Darwin: "It is not the strongest of the species that survive, or the most intelligent, but the most receptive to change."

[435] Ostros, T., 2001, "Challenges for the Aeronautical Industry", Interavia Business & Technology, Vol. 56, Issue 652.

CHAPTER IV

FUTURE TRENDS IN GLOBAL AVIATION, RECOMENDATIONS FOR EU AND EVALUATION OF INTERNATIONAL RELATIONS

4.1 OVERVIEW

Having understood the importance of the airline transportation in terms of politics and economy from history to our time, we will observe how the sector will be formed in the coming years, what kind of an attitude the EU should have in this process. It is expected that the trend in which the prices of the sector of airline transportation decrease will go on and the demand will gradually increase in the coming years. Travel via airline which used to be regarded quite luxurious is being preferred by those who belong to the categories of low-income. In addition to this, the transatlantic market which used to be among the most developed countries in terms of GDP will go on being popular. But, thanks to the countries which are making innovations in aviation such as China, new and big shares will come into existence. Throughout the coming 20 years it is expected that the traffic of airlines will be as twice as it is now. Here in this environment, it's gradually becoming very important who will gain the control of the market in the future. The companies of the USA which used to dominate the airline transportation are being forced by the airline companies of the EU. It can't be disregarded that the developing countries are making efforts to be qualified to be the master of the world market. The EU has got a very great chance both in the direction of expanding process and the presence of the current eminent companies and also the strategies and vision of the commission. But the EU should make some new amendments in this subject. Here in this section, how the sector of airline transportation will be formed in the future, what the attitude of the EU in airline transportation related to the future will be discussed and some suggestions will be put forward for the EU so that it will possess the control of the market. And then the relations of the EU with the other countries will be

touched on and comments on what sort of strategy of cooperation and competition the EU should follow so that it becomes the master of the market will be made.

4.2 FUTURE PROSPECT IN THE GLOBAL AVIATION SECTOR

It is expected that Air Transport will become widespread and because of this air traffic jam will be denser. Because GDP and prosperity are increasing and lower cost firms are established day by day. In this section of air transport in the world, its results, which trends will appear and which players will go to the fore in the world market.

It is especially touched on the traffic growth and Low Cost Carrier expansion issues in this chapter which it is tried to guess how the world market will develop to acquire the statue of the EU in the future. Also it is discussed that companies will cheaper then prices to keep their competitive advantage, so they will concentrate on decreasing their costs in future more than today to keep their profitability and the sector is open for new crisis.

The fundamentals of economic development, globalization, and the need for people to travel will be strong in the coming decades since increases in gross domestic product increase people wealth in other words, the wealthier means more travel. The development of travel worldwide is derived from other economic factors, such as international trade and globalization; and industry trends, including declining fares, more direct services, and increased frequencies. Although the industry does experience short-term highs and lows, if we eliminate these fluctuations, it can be seen that there is positive trend.

Governments continue to increase access to the marketplace by removing restrictions on carriers in their own countries and permitting additional levels of service across the globe. A decreasing regulatory burden frees new and existing carriers to improve their networks, renovate their business models, and pursue different strategies. A liberalized environment creates more opportunities for airlines to compete. Competition has historically led to decreasing fares, increasing frequencies, and more routes, all trends that will continue.

Airline passenger traffic is forecasted to grow at an annualized rate of 4.8 percent. World air travel from 1970 to 2020 can be seen in Figure 4.1. World GDP growth of 2.9 percent explains the majority of air travel growth. During the 20-year forecast period, world regions and traffic flows will have varying growth rates around these norms.

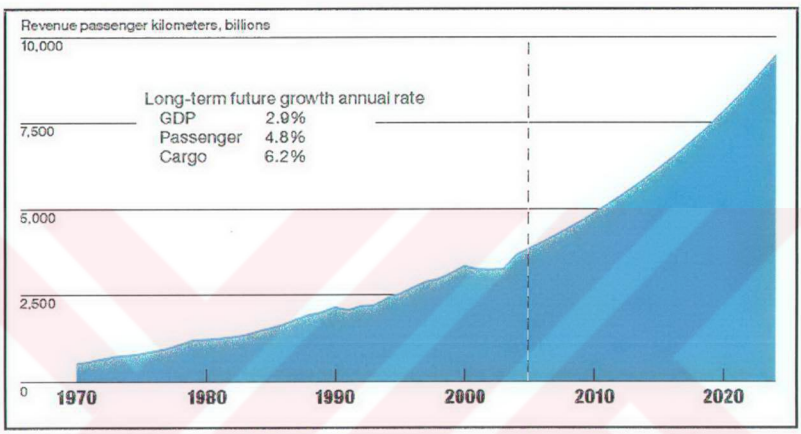


Figure 4. 1 World Air Travel Trend

The worldwide fleet will be 35,300 airplanes in 2024, more than double the current size. About 58 percent of the world fleet will be single aisle jets, and 22 percent will be midsize twin-aisle airplanes. The rest of the fleet will consist of regional jets (16 percent) and some 747-size and larger airplanes (4 percent). The large domestic markets in Europe and North America, along with the strong preference of low-cost carriers, drive the dominance of the single-aisle fleet. A mix of single- and twin-aisle airplanes is more common in geographically diverse regions such as Asia. Twin-aisle jets are the mainstay of intercontinental markets. More than half of the regional jet deliveries will be in North America.[436]

[436] Current Market Outlook, 2005, Boeing Market Analysis.

Almost 26,000 airplanes will be delivered over the next 20 years. About 60 percent of the deliveries will be single-aisle jets, making up about 39 percent of the 2.1 trillion delivery dollars (in 2004 numbers). Midsize twin-aisle airplanes will account for about 22 percent of the deliveries and 45 percent of delivery dollars. About three-quarters of the deliveries will go to fleet growth, while the rest will replace retiring airplanes. Passengers will avoid itineraries that require multiple hub connections and segments to complete a journey. While the share of 747 and larger airplanes will fall from 6 percent to 4 percent, the percentage of midsize twin aisle airplanes will increase from 18 percent to 22 percent. Twin-aisle airplanes allow airlines to economically fly the increased frequencies, city pairs, and nonstop flights requested by passengers.[437]

In short-term cycles, air travel demand can fluctuate widely. Consumer confidence and business profits can be strong influences on air travel demand during a business cycle. Travelers treat discretionary air travel much as they treat more durable goods such as computers and automobiles. Visits to friends and relatives, vacations, and even business trips can be canceled or delayed when income is depressed or uncertain.

World air traffic measured in RPKs will grow 4.8 percent annually over the next 20 years, slightly less than two percentage points greater than GDP. Northeast Asia, South America, and Europe have the largest growth of air traffic in excess of GDP. Europe will experience the continuing positive effects of liberalization (Figure 4.2).

The projected economic scenario is positive to sustain continuous air travel demand growth in all regions. World GDP is expected to grow 3.3% in 2005 and achieve an average annual growth rate of 3.1% during the 2005-2024 period. Demand for global air travel is projected to grow faster than GDP, averaging 5.4% annually over the forecast period. China, the Middle East and Latin America will show the most significant growth among the world's geographic regions. Over the next 20 years, China's revenue passenger kilometers (RPK) are expected to grow at an average annual rate of 8.1%, the Middle East 7.4% and Latin America 7.1%. In Europe, RPK growth will exceed GDP growth by 4%, due primarily to

[437] Global Market Forecast 2004-2023, 2004, Airbus Report.

enlargement of the European Union and expansion of the air travel market in Eastern Europe.[438]

Despite robust traffic growth, North America and Europe will experience a decline in their shares of world air travel demand (RPK), respectively 4% and 1% during the 20-year period. This projected decrease is due to airline industry development in less mature markets, such as Asia Pacific which is expected to increase its world RPK share by 2% over the next 20 years (Figure 4.3).

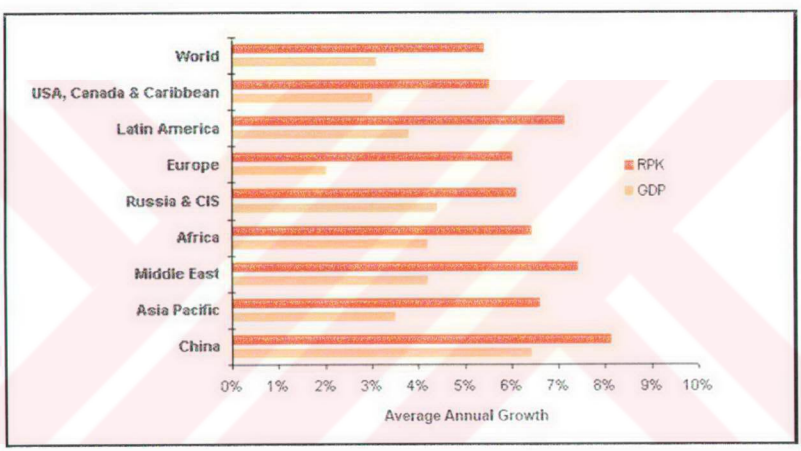


Figure 4. 2 Projected Traffic and Economic Growth by Region (2005-2024)

Cost reductions and increasing efficiency play an ever-larger role in airline decisions. Although the proliferation of truly low-cost carriers will continue around the globe, almost every airline strives to cut costs and enhance productivity. For some, the goal is to be included among the list of low-cost carriers, while others aim to be the low-cost provider in

[438] 2005-20024 Market Outlook, 2005, Embraer Report.

their particular business models, regions, or niches. The cost-containment mindset is now pervasive and will govern nearly every aspect of the industry for the foreseeable future.[439]

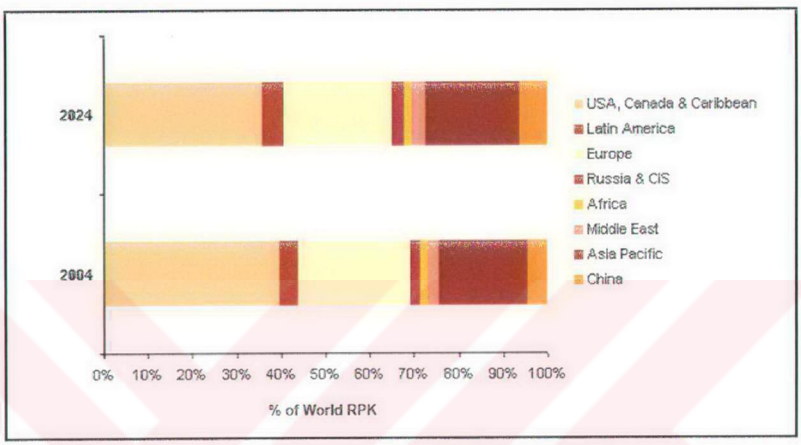


Figure 4. 3 Air Travel Demand by Region (2005-2024)

As mentioned in Chapter 2.3.1.2, technology is improving the way airlines do business. The Internet has significantly changed the way airlines can price their seats, market their services, and interact with their customers. Transparency allows for easier and faster comparison of fares and schedules. Many airlines are also shifting their passenger check-in, frequent flyer programs, and other customer contact functions to enhance flexibility and control costs.

Infrastructure develops alongside air travel demand. History shows that, in specific markets, infrastructure supply and air travel demand are often not synchronized. Fortunately, the system adapts through a variety of mechanisms, such as use of secondary airports, scheduling in nonpeak hours, and improvements in air traffic control.

[439] Aviation Week & Space Technology,"World News Roundup", Vol.155, Issue 4,2001.

In summary, air service is becoming lower in price, higher in value, and of greater interest to people around the globe. The combined effects explain the continuing growth of air travel over and above that stimulated by GDP growth. The airline industry is adapting to a new operating environment where fundamentals of the air transportation system have permanently changed. Since 2001, the airline industry has been taking actions to adapt to a constantly changing environment, carriers have been simplifying their operations to achieve the greatest operating cost efficiencies while trying to maintain market share in a declining yield and high competitive environment. The new air transportation business is being established with permanent structural changes. In response to the growing threat from low cost carriers, network airlines are adapting their business models to survive and are contracting more services from regional airlines in order to compete more effectively.

4.2.1 Traffic Growth

As mentioned before, it is expected to dense in air traffic because of increasing demand in the future. As we have studied reasons of it, it will be investigated that how dense the traffic will be in which region of the world.

As discussed in Chapter 2, demand for air travel is declined due to several reasons such as 11^{th} September and SARS crisis. However, in 2004, US domestic and intra-European results confirmed an air transport demand recovery trend (Figure 4.4). In Asia Pacific, the tourism industry was adversely affected by the tsunami in December, but air traffic is recovering. The Government of India is investing in infrastructure, reducing taxes and liberalizing free trade agreements to boost its air transport industry, action that is fundamental to attracting more investment and visitors. Overall in the Asia Pacific region, a more deregulated scenario will emerge for an industry that will face increasing competition and, at the same time, will drive improvement in service levels and a need for right-sized equipment. At present, the market still behaves monopolistically; approximately 70% of all routes are served by a single airline.

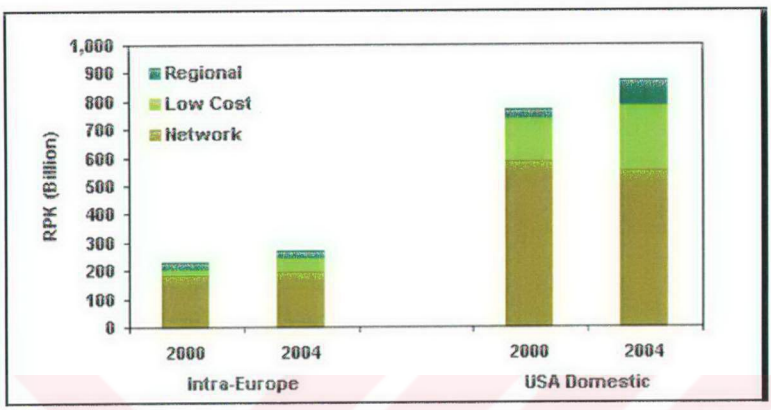


Figure 4. 4 Traffic Recovery

In China, the 2008 Summer Olympic Games and the 2010 World Expo will have a favorable impact on the economy and demand for air transportation. To accommodate the influx of international visitors, the Chinese Central Government is investing heavily in the development of its air transport infrastructure and tourism industry. The current scenario is one of a regulated environment whereby route rights, ticket prices, jet fuel prices and infrastructure taxes are set by government authorities. A process for gradual deregulation has been established. Airlines now have greater control over day-to-day management of their operations and competition is slowly building in the domestic market.[440]

In Russia, 80% of RPKs are flown by the top ten airlines, based on 2004 statistics. Most of the main airlines are restructuring which is producing high traffic growth and some profitable results. As a clear strategic goal, the government is forcing the consolidation of the Russian air transport sector through more rigorous safety standards and regulation. It aims to reduce the number of airlines in the short term to around 35 from the current 199.[441]

[440] Jiulin, C., 2004, "Joining Hands to Build Excellence Together", Speech at EU-China Business Forum, 06/05/2004, Brussels.
[441] General Aviation in Russia, available on site http://www.aviation.ru/bisnis/bisnis.html.

A generally positive economic scenario and low ticket prices are the main drivers of sustained growth for air travel demand. World economies are projected to grow 3.1% and air transport demand 5.4% annually over the next 20 years. China (8.1%), the Middle East (7.4%) and Latin America (7.1%) are expected lead the growth in air travel demand (Figure 4.5).

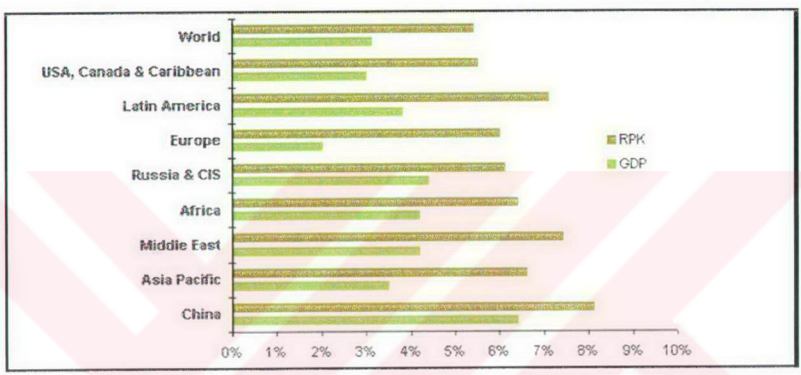


Figure 4. 5 Projected Traffic and Economic Growth by Region (2005-2024)

4.2.2 Low Cost Carrier Expansion

Nowadays, around the world, Low Cost Carrier is getting popular. Growth of Southwest in U.S. and Ryanair in Europe results in the establishment of low cost firms as an alternative for flagship carriers in many parts of the world. With the help of cheapening, it may reach to larger mass in transporting. It is expected that these companies will continue to grow up in the future.

The growth of low cost carriers and real-time availability of Internet fare information has led to a dramatic shift in consumer purchasing habits and market share among airline business models. Approximately 70% of all domestic passengers in North America and Europe have access to low cost carrier services. Regional airlines have also generated strong traffic growth rates as they play more critical roles in their network carrier's drive

for greater operational efficiency. In Europe, low cost carriers are expanding and regional airlines are concentrating on the development of secondary business markets (Figure 4.6).

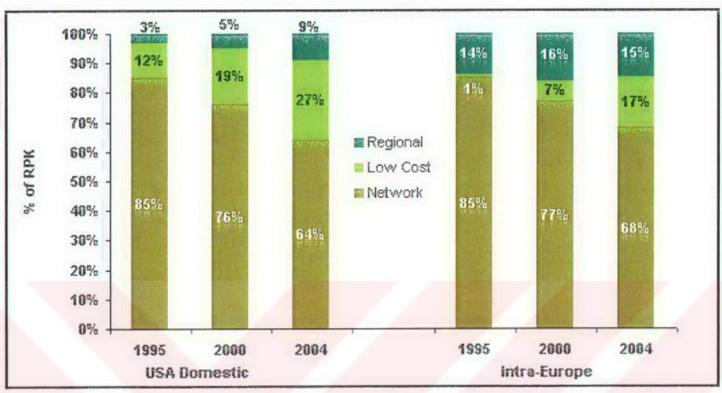


Figure 4. 6 Shift in Market Share

The expansion of leading low cost carrier airlines such as Ryanair and EasyJet in Europe, and Southwest and Jet Blue in the USA, is bringing lower fares to new, price-sensitive consumers. Legacy carriers are under pressure to reduce operating costs, improve network efficiency and enhance their quality of service. There were more than twenty low cost start-up airlines in Europe in the last three years, some as spin-offs from network carriers and some as transformed regional airlines. Many failed. Despite intense competition and with the ease of market entry, the low cost airline model is expanding in other parts of the world, Brazil, Malaysia, Australia and India.[442]

4.2.3 Weak Revenue Environment

Because of Low Cost Carriers' being popular in the market, other companies tend to decrease their prices to be competitive. So, everyday ticket prices getting cheaper and revenues decrease.

[442] 2005-20024 Market Outlook, 2005, Embraer Report.

The aggressive expansion of low cost carriers combined with the corresponding fare reductions from network carriers are the main contributors to lower average yields. With the elimination of minimum-stay fare restrictions, introduction of fare caps and more transparent point-of-sale ticket distribution networks, the outlook for yields does not suggest any robust growth. Migration of the business segment to lower fares in conjunction with a gradual reduction of on-board amenities offered by legacy carriers implies that those travelers are no longer willing to pay premium fares. Figure 4.7 from the U.S. Air Transport Association shows that current yields are nearly 20% lower than in 2000, with no evidence or expectation of any significant recovery

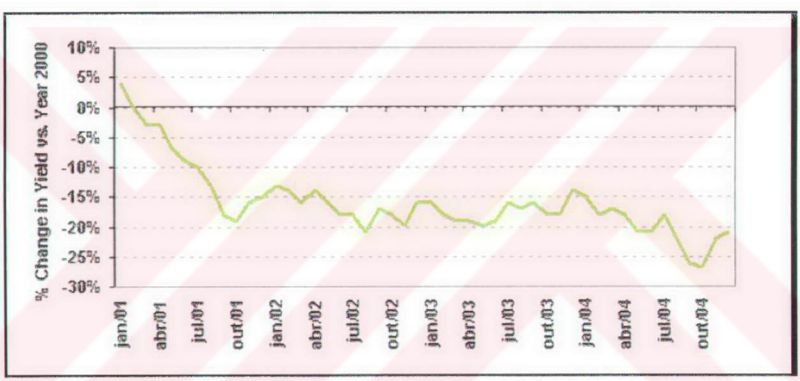


Figure 4. 7 USA Yield Evolution

4.2.4 Strong Focus on Cost Reduction

As we mentioned before, companies decrease their costs to keep their competitive advantages. But to continue their economic existing, they need to keep their profitability. Hence, they try to compensate the low prices with the lower costs. The lower costs gain importance by means of competitive becoming lively and the companies' local point of low cost will increase gradually.

The industry has been proactive in initiating cost cutting in an effort to cope with the new environment. Airlines are vigorously reducing any cost within their control and no single expense is overlooked during their restructuring efforts. They are implementing dramatic workforce reductions, modifying work rules and benefits, revising procurement policies, simplifying fleets, deferring capital expenditures, revising distribution channels, and introducing new technology in order to save money. Network carriers are also revising flight schedules and network plans to minimize hub costs and optimizing fleets by right-sizing aircraft to market demand. All airlines are driven to a lean cost structure whereby maximum asset utilization and cost efficiency are fundamental to remain competitive.

Most of the efforts to reduce costs were not translated in profits, particularly because of the high price of fuel. Depressed cash reserves prevented airlines from minimizing their exposure through reasonably priced hedge contracts. Unusually cold weather, war, higher import tariffs, and refinery capacity limitations led to higher crude oil prices. Projected oil prices indicate an upward shift from historical levels of US$20-25 per barrel to around US$40-45 in the mid to long-term (Figure 4.8).

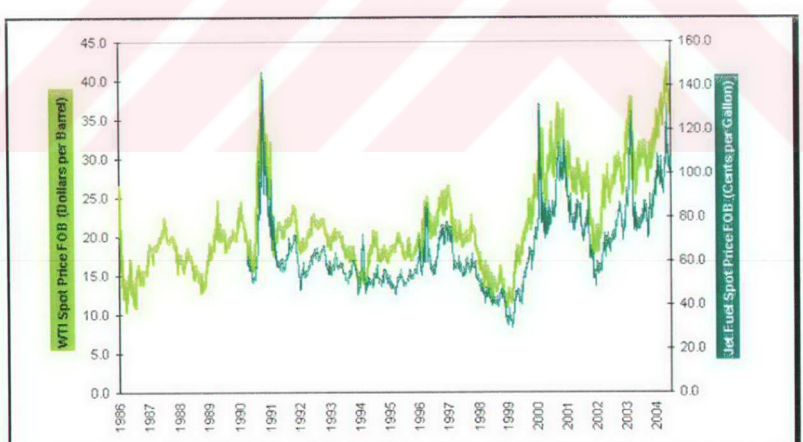


Figure 4. 8 Trend Oil and Jet Fuel Prices

With the airline industry recovery, congestion problems are increasing and causing additional costs to carriers. In the USA, the Federal Aviation Administration (FAA) considers lack of investment in new runways the main constraint, but the future development of free-flight and the expansion of the rolling hub philosophy may mitigate this problem. The FAA faces several challenges in implementing its improvement plan which relies heavily on runway development to increase capacity. Building new runways at major U.S. airports is often problematic and many are geographically constrained. Congestion pricing and slot auctions still pose threats to operators of small capacity aircraft in the medium term which tends to drive airlines towards higher capacity equipment.[443]

In Europe, congestion problems arise from an insufficient integration of Europe's air traffic control systems. The network is divided into 26 subsystems consisting of 58 en-route control centers. The Single European Sky concept, one of the European Union's current priorities, is designed to improve air traffic management with a more integrated air traffic control system in order to reduce delays and improve safety. Current delays caused by congestion have a significant negative impact upon consumers, airlines and airports. Measures are being taken by the Single European Sky initiative to minimize problems through more efficient management of the existing airspace system.[444]

Airlines continue to focus their efforts on every opportunity for cost reduction. Fleet simplification though the acquisition of common aircraft types is helping airlines achieve cost savings with streamlined maintenance procedures, lower spares inventories, more flexible fleet deployment, and the benefits of common crew type rating.

4.3 FUTURE OF AVIATION IN EUROPEAN UNION AND RECOMMENDATIONS

In the former parts, how the aviation will generally develop is discussed and comments are produced. Here, in the general frame drown before; future of the aviation in E.U. will specially be discussed. In addition to this, it will be touched on the air transport policies and

[443] http://www.faa.gov/about/plans_reports/media/flight_plan_2006.pdf
[444] The Future of Air Transport, 2003, UK Department for Transport. Available on site: http://www.dft.gov.uk/aviation/whitepaper

strategies related to future explained in the work of European Transport Policy named as White Paper of Commission. Later the writer will make special suggestions on the requirement that is to be done for both substructure and arrangement to make the EU become in a better condition in the world market. There will be some commands on how the relationship among E.U. and the world's biggest three player; U.S., Russia, China will get shaped. Relevant to these, suggestions will be developed for how the E.U. assumes an attitude in the relations with these countries.

4.3.1 Future of Aviation in European Union

In this part how the future of air transport sector of EU will get shaped against to future trends has been discussed. It will be studied that in which fields the union is forceful and weak against to developing trends. The opinions and policies of European Commission in the book of White Paper, European transport policy for 2010 related to air transport's future will be evaluated.

Of all the different modes, air transport has shown by far the largest increase over the last twenty years. Expressed in passenger/kilometers, air traffic has increased by 7.4% a year on average since 1980, while the traffic handled by the airports of the Fifteen has shown a five-fold increase since 1970.Every day, more than 25 000 aircraft fly the skies above Europe, and judging by growth trends this figure can be expected to double every ten to fourteen years. Though the skies are vast, this traffic density poses some real problems. The increasing number of delays is a clear sign of saturation. Yet airlines expect air traffic almost to double by 2010. To sustain such growth, an air traffic management will need to be reformed and sufficient airport capacity guaranteed in the enlarged European Union.[445]

Europe is a blend of smaller developing economies and larger mature ones. Overall, the 20-year forecast for annual GDP growth is 2.1 percent. Air traffic of the region's carriers is forecast to grow at 4.3 percent, substantially faster than GDP. The rise of low-cost carriers continues to generate new travel growth in Europe. European markets have completed their

[445] White Paper European Transport Policy for 2010: Time to Decide, 2001, Commission of the European Communities.

first decade of liberalization, which has rapidly stimulated air travel demand. Lower fares and point-to-point service too many secondary and select hub airports are desirable to air travelers. Inclusive tour charter operators will play a role in delivering air travel for European tourists to a wide variety of destinations, many outside the continent. Mainline network carriers will grow their international networks largely operating hub and spoke systems. Historical and economic ties with many regions worldwide will continue to support this international traffic. In addition, these carriers will also serve the more complex itineraries of intra-Europe travelers.[446]

More than three-quarters of the European fleet will continue to be regional jets and other single-aisle airplanes. These will serve domestic, intra-Europe, and short-haul routes to Africa and the Middle East. The share of midsize twin-aisle airplanes will increase from 15 percent to 20 percent over the next 20 years. The increase in city pairs and frequencies on the Atlantic and to Asia will drive this trend.

The trend towards a very liberal open skies international regime is unstoppable. Within Europe, the more or less total deregulation of intra-European air services that has already taken former communist states. While liberalization of market access will spread, another more controversial issue, namely that of airline ownership, will also need to be tackled .In one very important respect air transport is still treated quite differently forma any other industry. The traditional and even the newer open skies bilateral air services agreements require the airlines designated by each of the two states to be substantially owned and effectively controlled by nationals of the designating state. It is inevitable that, during the first few years of the third millennium, more and more states will abandon this commercial constraint either through bilateral or multilateral agreements in globalized world. With increasing merging and alliance, airline ownership will become increasingly multinational rather than national at present. The first decade of new millennium will finally see the

[446] Current Market Outlook, 2005, Boeing Market Analysis.

complete transformation of the airline industry from a protected, nationally owned industry into a true multinational business operating freely across frontiers.[447]

As liberalisation spread to Europe in the late 1980s European carriers began to examine how they could achieve the marketing benefits of large scale. They began to take over their smaller domestic competitors and looked to buying minority shares in European airline outside their own countries. This situation help companies to minimize their operating cost, create more market and global networks in different countries. In addition to this, growing consolidation within the airline will raise issue of market dominance and possible abuse of the dominance, when these companies behave like monopolist or duopolist.

Despite greater industry concentration, there will be a strong downward trend in fare levels and airline yields in real term .A number of factors will create pressure to reduce fares. Further liberalization and more open skies bilaterals will remove any vestiges of tariff controls while encouraging the launching of new airlines and expansion of existing airlines onto new routes from which they were previously barred by the regulatory regime. As well as they achieve much lower costs by introducing new operating practices and different service standards. New European airlines, such as Ryanair or EasyJet, adopted low cost economies and entered European international markets.[448]

The downward pressure on yields will in turn make cost reduction a major priority for all airline managements. Cost cutting is no longer a short-term strategy to deal with short-term economic downturns in the airline business. The focus of cost reduction strategies will inevitably be on reducing labor cost, which for most airlines represent 25 to 30 percent total operating cost. Labor is also a major cost differentiator between airlines competing in the same markets since so many other input costs such as fuels landing fees, aircraft purchase and ground handling will be broadly similar. Airlines will try to reduce labor costs first of all via improving labor productivity through reductions in staff numbers, by renegotiating work practices and by changing business and service processes. The higher the wage levels

[447] Archick, C., 2005, The European Union in 2005 and Beyond, Congressional Research Service Report for Congress.
[448] Global Market Forecast 2004-2023, 2004, Airbus Report.

in an airline's home country the greater will be the pressure to relocate labor-intensive activities to countries with low wage structure.[449]

The strong pressure to reduce unit costs will also push airlines to reexamine another major cost area, that of sales and distribution. At the same time the industry will become more consumer-oriented.

In the early years of the new millennium, the airline industry will also have to face up to numerous problems arising from the inadequacy of the aviation infrastructure in several parts of the world. Continued growth at around 5 per cent per annum will put existing aviation infrastructure, that is, the airports and the air traffic systems, under considerable pressure. In many parts of the world they may be unable to cope because of inadequate fund for investment, lack of political will or, in the case of airports in Europe and some other countries ,through lack of suitable land available for the constructions of additional runways. For many airports strong environmental lobbies opposed to further expansion and, in some movements. Government and airlines will increasingly have to look to developing satellite airports close to major conurbations either on what were previously secondary airports or airfields or even on military airfields no longer required by the armed forces.[450]

Future planned policies of the European Commission related to Air Transportation are listed in the European Commission's White Paper on European Transport Policy for 2010: Time to Decide. In this paper four main action points are described. These can be summarized as follows:

1. Tackling saturation of the skies: The Commission recognizes that the European Union is handicapped by the lack of integration in air traffic control. Therefore the creation of the Single European Sky is one of the European Union's current priorities. The Commission proposes to create a Single Sky by 2004, by adopting a regulatory framework to ensure that

[449] Air Transport Market Outlook, 2006, available on site http://www.airguideonline.com
[450] The Future of Air Transport, 2003, UK Department for Transport. Available on site: http://www.dft.gov.uk/aviation/whitepaper

aircraft follow harmonized procedures, use regulation equipment and observe common rules on the use of airspace.

The Commission will also propose a mechanism enabling military authorities to maintain their defence capabilities. It will initiate a dialogue with the social partners, possibly starting with air traffic controllers, it will cooperate with Eurocontrol, and it will set up a surveillance, inspection and penalties system to ensure effective enforcement of the rules.

2. Rethinking airport capacity and use: In response to the growth in traffic, it is time to re-think how airports operate in order to make optimum use of existing capacity. However, this will not be enough and Europe will not be able to cope without new airport infrastructure. Although the Commission declares that today its priority is to limit the construction of new airports, for which it is hard to gain public support, it admits that policy makers will not be able to find a way out of building new runways or new airports in the long term. Such investments will require proper planning at European level over the next 20 years.

The only measures proposed by the Commission are the following, familiar solutions: revision of the slot allocation system to allow greater access to the market; airport charges, which must be adjusted to deter bunching of flights at certain times of the day; environmental rules, which must encourage efforts to find alternative measures before restricting operations at an airport; intermodality with rail, which could produce significant capacity gains by transforming competition between rail and air into complementarity between the two modes.

3. Striking a balance between air transport growth and the environment: The Commission points out that the introduction of measures to reduce noise and gaseous emissions caused by air traffic is a sine qua non if the industry is to continue to grow. The next ICAO Assembly will adopt a new noise standard. However, it must be backed up by a plan to phase out the noisiest aircraft in the world fleet, starting with hush-kitted aircraft.

On the issue of aviation kerosene, international agreements mean that the exemption for kerosene could not be abolished unilaterally by the EU, but should be decided by ICAO. Another solution is to abolish the tax exemption for kerosene on intra-Community flights only. As an additional or alternative solution the Commission proposes the introduction of differential en-route air navigation charges to take account of the environmental impact of aircraft.

4. Maintaining safety standards: The Commission recognizes that air transport is one of the safest modes. The establishment of a European Aviation Safety Authority (EASA) will provide a regulatory framework for all aspects of air transport activities, from aircraft certification to operational rules. The Commission explains the need for a TCAA type agreement with its main partners (USA, Japan, Russia, etc.) based on the principles of free access to traffic rights, equal conditions of competition, safety, environmental protection and the elimination of property rights.

4.3.2 Recommendations

Following the future of the aviation in E.U. and attitude of the Commission on this subject is examined, the points that are required to be developed and focused on by the union are designated and suggestions are improved by intensifying on six specific issues. By increasing the share of the E.U. in the growing air transport market, it is required to be done. Improvements in some strategies for its going to the fore of U.S. and it need completely new arrangements. By means of increasing demands, it is required to invest in both infrastructure and airport capacity and serious improvements are needed for R&D issue. Also new arrangements are required for its relationship between other countries.

These suggestions are densed on the arrangements related to issues such as infrastructure capacity, relationship between airlines and airports, security, external relations and managing environmental challenges. The recommendations provided in this study are generated in the light of the report, *Action Plan 2004-2009*, published by Association of European Airlines Report.

The global economy depends on networks, IT telecommunications or transport on the ground or in the air. Europe's network carriers make an important contribution to the European and world economies. Their services are indispensable for the smooth and efficient functioning of global trade and the understanding between peoples. Airlines offer safe, affordable, convenient transportation at high speed to all destinations in the world.

World scheduled airlines carry over 1.6 billion passengers per annum, and after recent setbacks the market has once again settled into growth mode. Air travel for business or pleasure is attainable and available to most people; for many businesses it is absolutely vital. Cargo transported by air currently accounts for 40% of world trade in value. Many industries rely on regular and timely deliveries by forwarders to continue their activities. Just as airlines are crucial for the global economy, they are essential for the integrity of the European Single Market. In the interest of the future prosperity of the enlarged European Union, today's shortcomings within the aviation sector need to be addressed. Civil aviation suffers from the absence of a holistic view on the part of both its major service providers and its regulators at national and European level. Airlines are striving to reduce costs and improve service. Efficient service, however, depends on an integrated and balanced performance throughout the aviation value chain with all elements clearly focused on the passenger.[451]

Airline activity is a prerequisite for international trade and tourism. By bringing people together, this industry also helps the enlarged Union to grow together and prosper. Air links are particularly important to integrate the 10 countries that joined the EU on 1 May, 2004. Thus, a viable aviation sector is vital to secure a solid perspective for sustainable growth of the European economy. Because of their global reach, however, European airlines are exposed to economic developments and extraordinary events anywhere in the world. Furthermore, the level of influence of different regulatory regimes continues to be high and contributes to the vulnerability of carriers to distortions of competition. Network airlines play a crucial role in regional development. The primary focus of no-frills airlines on point

[451] C. Allen,"The Competition Effects of the Single Market in Europe", Economic Policy, Vol.13, No.27, 1998, p439-486.

to point connections may, in individual cases, provide for Access to selected destinations; however, the availability of such point-to-point services does not substitute the advantages of scale and scope inherent in a network system. For regional communities, the networks provide access to all destinations within Europe and globally, thus enhancing the attractiveness of any given location connected to such a network.

The current regulatory framework is an impediment to sustainable growth, and such growth in turn is predicated upon the ability of this industry to change structurally. The time has come to lay the foundations for a sustainable aviation industry. Regulatory bodies must ensure that the market can function. If competitors in other industries cannot meet market requirements, they exit the market. In the airline industry, the barriers to exit are very high; the barriers to entry are low. Consequently, overcapacity has become a major problem affecting the profitability of the industry. This industry therefore requires a policy which addresses key structural issues, focuses on guidelines and avoids micro-management.[452]

The key issues which call for the attention of the regulators can be clustered as follows:

Infrastructure capacity: In the air, air traffic management is fragmented along national borders; the Single European Sky must be implemented with specifically defined measures to improve efficiency, avoid delays, improve eco-efficiency and reduce costs for its users. On the ground, airport capacity bottlenecks must be resolved by expediting infrastructure enhancement projects. Air transportation infrastructure should be placed on equal terms with other vital infrastructure projects, such as the Trans European Network programme.

Relationship between airlines and airports: AEA members support the privatization of airports if this leads to greater efficiency and is complemented by an economic regulation. European airlines seek new mechanisms, such as independent regulators and fee caps to determine user charges so that providers are motivated to reduce costs. A new partnership relationship is required between airlines and airports, given that both are equally dependent on continued demand for air services. This dependency is also true for all other service

[452] K. Button, Interactions of Global Competition, Airline Strategic Alliances andAir Traffic Safety, 1997.

providers in the aviation value chain, such as the Air Navigation Service Providers, Computer Reservation System providers, Caterers, Ground handlers, etc. If the relationships cannot be adapted to meet the demands of the customers for flexible products, aviation will remain inefficient.

Security: EU regulators should standardise measures to maximise security, ensure compatibility of such standards with other regions of the world, promote measures to minimise hassle for passengers and develop a viable insurance scheme. If this is not done, growth in this sector will be undermined by an incessant array of administrative burdens, with negligible effect on security levels and unnecessary costs as well as continued legal uncertainty for the airlines.

External relations: A strategy must be established to determine how the EU institutions, the Member States and the private sector can jointly generate added value for the European economy. The objective of this policy on external relations should be to create a smooth transition from the bilateral aviation agreements to an international multilateral framework which would allow airlines to meet increasing demand for global travel, freight flows and tourism requirements in a viable and sustainable manner. A key objective is the successful conclusion of an Open Aviation Area with the United States allowing reciprocal opportunities for companies from both continents and contributing to a level competitive playing field.

Managing environmental challenges: Standards in Europe for the sustainable protection of the environment are amongst the highest and best in the world. Because the environment cannot be isolated regionally, European airlines continue to seek improvements of international standards and implementation of measures that improve eco-efficiency at international level. Further, unnecessary strains on the level of emissions is the lack of, or inefficient use of, infrastructure, such as holding patterns over congested airports or taxiing queues prior to take-off. According to studies commissioned by ICAO, additional taxes or charges will have a negligible effect on emissions. Environmental measures on a European level can have a significant impact on the competitive position of the European industry

and AEA members will therefore continue to benchmark levels of commitment to environmental issues with other regions, seeking global standards, and examine whether and how it would be technically feasible to promote the notion of a global emissions trading scheme.

Inherent inefficiencies will not just go away. In the absence of a European consensus on the need for action, individual governments will be increasingly forced to intervene, thus contributing further distortions of competition. Ultimately, success in the market will be driven not by efficiency, but by the extent to which public money can be accessed. If aviation is to remain market oriented, and if it is to become efficient, it requires a set of effective political priorities which allow market forces to prevail. State subsidies at regional, national and international level should be guided by a policy which strives to rigorously implement European Competition law.[453]

According to these key issues, some recommendations are generated here for possible actions that should be taken by the European Commission.

4.3.2.1 A Reform of Air Traffic Management

Air traffic jam will be lived by means of increasing number of passengers' flight in EU in the future. For this reason, the capacity of all kind of infrastructure related to present air traffic management will become insufficient. Hence, a fundamental reform is necessary for air traffic management issue.

Congestion remains air transport's biggest long term challenge. It causes delays and unreliability for passengers, reduced efficiency for airline and airport operators, and a massive waste of energy and materials. Studies by the EU and the Eurocontrol Performance Review Commission reveal that the cost of air traffic control delays in Europe to airlines and their customers is in the range of €5.7 billion per annum. The underlying problem of Air Traffic Management is the patchwork of the individual national authorities' air traffic

[453] K. Button, Towards an Efficient European Air Transport System, 2002, A Study for the Association of European Airlines.

control networks, which continues to restrict Europe's ability to take pan-European action to combat congestion and plan efficiently for dynamic changes in air traffic demand. Air Traffic Controllers do an excellent job; sadly they lack the kind of progress pilots have experienced in aircraft technology. ATC operational infrastructure is still based on radar tracking, voice communication and ground-based radio beacons - as they have been for the past 40 years. There is no standardized ground-to-ground or air-to-air data-communication link in place which would allow substantial automation. Air transport in Europe also suffers from a fragmented air space, the absence of common use of ATC-data sources, the lack of automation support, no co-operative system approach and no incentives to enhance cost effectiveness through competition.

Airspace users cannot claim compensation for delays and the resulting operational cost increases due to inefficient Air Traffic management. Airlines need service providers to enable a safe and efficient trajectory for the total duration of a flight, beginning at the departure gate and ending at the destination gate. If organized efficiently, the current number of controllers could handle far more movements and provide a far superior and timely service. The issue is not the absence of projects aimed at providing at least partial solutions; the issue is a plethora of uncoordinated projects. The C-ATM project focusing on user-driven early implementation of ATM improvements, and secondly, DEPLOY / SESAME, a large scale project to define the base-line of the ATM-system of 2020 and the transition from today to the future, an initiative of the European Aerospace industry using the European Union Single European Sky Initiative. Both projects are funded by the European Commission which, in line with its intention to involve the expertise of the entire airline sector. In summary, the main actions required can be listed as:

- Prioritisation of the Commission's work and, jointly with the private sector, provision of resources for focussed project work in the field of ATM.

- Action must be directed at making Air Traffic Management better, more efficient and cheaper

4.3.2.2 Improvements in the Airline- Airport Relationship

Airport infrastructure capacity is one of the most binding constraints of airport business, thus airline-airport relationship will take a significant place in the increasing air transport demand. So, it will become profitable to improve this relationship in the near future.

The Commission has already developed the commendable concept of Declaration of European interests in its White Paper on European Transport Policy for 2010, published in September 2001. The idea is to consider some specific infrastructure as being of strategic importance to the smooth functioning of the Internal Market. The mechanisms will be designed to help to bring the points of view of the various local, national and European players closer together. The Commission should use this new concept to promote the necessary expansion of hub airports in Europe as they are essential components for the functioning of the Single Market, as well as providing vital links to the rest of the world for both passengers and priority freight. Although the European Airlines accept the principle of competition between air and rail, they object to the unfair competition created by the fact that rail continues to enjoy heavy subsidies from both national states and EU institutions. Currently, €33.2 bn are spent annually to fund transportation projects, of which €33.1 bn are used to fund railway systems.

The current policy of providing the European railway systems with subsidies with no transparent rational analysis is unduly biased. Furthermore, more attention should be given to Trans European Networks. The EU funding of infrastructure projects (TEN) does not cover one single additional aviation-related project. Airports are the airlines' key service providers. Network carriers depend upon their hub airports to be able to operate a consistent pattern of incoming and outgoing flights and thereby offer convenient connectivity. Disruption of airport operations jeopardizes entire schedules. Likewise, local cost increases affect the hub operator more than competitors using the same airport for occasional spoke operations. Such hub airports are a natural monopoly; airlines have generally not been able to create alternative hub operations due to investments, employment and traffic rights, and therefore lack leverage when negotiating fees and

charges. This gives rise to the need to foresee regulatory protection against the possible abuse of a dominant position by airports.

In principle, privatization paves the way for private investors to ensure that efficient organisational structures and appropriate market oriented strategies maximise returns on investments. However, privatization is usually irreversible. Given that airports also have the function of providing for infrastructure access on a non-discriminatory and cost-related basis, governments must ensure that the instruments necessary to steer their respective aviation policies are available. It would be detrimental for entire regions around airports, possibly for the national economy, if private investors were to focus exclusively on maximising returns, with no understanding of aviation-specific interdependencies, because non-aviation related activities generated higher returns than aviation-related investments. The private investor should be made aware of the fact that an infrastructure provider should not be in a position to charge for the use of the infrastructure irrespective of market developments.

As the Commission decision on aids granted to Ryanair substantiates, many airports have resorted to seeking sources of revenue from users other than fees. Small airports have attracted local funds to promote the airport's region with the help of marketing aids to airlines. Although the Charleroi decision attempts to balance the requirement to allow for regional policy measures with the need to avoid distortions of competition, many individual cases of possible infringement of state aid rules are stil pending. Major airlines insist that the Commission develops a coherent and fair policy for regional airports.

National and local regulations differ substantially but, in general, the procedures for infrastructure construction are extremely complex and lengthy. It defies logic that it can take longer to pour concrete for a new runway than to design and build an entirely new modern jet aircraft type. Proposals should be developed for an agency to oversee airport charges within the EU. Airports must be bound by the principles of cost reductions, cost efficiency, user orientation and transparency.

The Commission should also push for the implementation across the EU of liberalised ground handling provisions. A regulation has been drafted but not processed. Even more important than the regulatory approach is a change of mindset: ground handling services must be subjected to market pressures. The ultimate goal must be to ensure that airports are able to provide efficient hub-and-spoke connectivity, as well as cater for efficient point-to-point services. The main points can be summarized as folloes:

- Drafting of an economic regulation to set up a fee cap, so as to prevent possible abuses of dominant position by airports.
- Development of a policy on regional airports.
- . Establishment of EU guidelines to limit the duration of the approval process for an infrastructure measure, whilst allowing for a balance of local, regional and environmental, economic and commercial interests.
- Promotion of an understanding of the effects of privatization of airports.
- . Regulation of cross-subsidies within airports or airport systems.
- . Promotion of Europe-wide implementation of liberal ground-handling provisions.

4.3.2.3 Security Dimension and Expectations

Air transportation sector's security has been increased by the event of September 11th, US records important developments for this subject. But E.U. has to work more for their security. A crisis in future may result in negative effects for E.U. air transportation and demand decrease as in period of Sep. 11th event.

Network operators depend upon hassle-free connectivity at their hubs. Additional measures taken after the 9/11 attacks created new burdens for passengers, shippers and airlines alike. The cost of these measures amounted to €900 million for the European carriers in 2001-2002 alone. A wide-ranging EU policy on security is gradually emerging. However, it is

essential that a common framework includes consensus on funding. European airlines should not be burdened with financing measures designed to protect society in general. Varying security requirements and differing funding policies create distortions of competition between European carriers, between EU and non-EU carriers, and with other modes of transport. Such distortions are avoided under the US policy whereby a substantial part of the national budget is devoted to security and includes the protection of aviation and other strategic transport modes. However, the extra-territorial application of US security measures must be rejected by Europeans. EU national authorities and the European Commission must retain the right to evaluate non-EU security measures before they are imposed on EU carriers. Only then can conflicts with national/European legislation be avoided. Moreover, the European Union should take issue with the US over the excessive use of Emergency Amendments for security matters imposed on the industry without consultation. As a principle, Emergency Amendments should never be adopted indefinitely; they should be applied in response to a specific and legitimate threat and be for a specified duration. European Airlines consider that the threat level, three years on from 9/11, no longer justifies this extraordinary mechanism. They are willing to submit proposals outlining how the establishment of a European Security Agency could ensure the harmonisation of a coherent and comprehensive policy Europe-wide and, ultimately, develop legislation on the funding of such measures. Briefly, the main points are:

- Establishment of high level security in Europe, while minimising hassle, through a coherent approach at EU and ECAC levels, with the objective of convergence with the United States, and ensuring that the measures envisaged are effective.

- Advanced consultation in matters of airline security between US and EU, particularly for measures intended to last permanently.

- Establishment of a procedure for the processing of third-country extraterritorial security measures exclusively through the carriers' national authorities.

- . Establishment of EU-wide harmonisation of security financing mechanisms and obtainment of Member States' recognition of their financial responsibility in combating terrorism and implementing specifically anti-terrorist measures.

4.3.2.4 Insurance Factor in Aviation

Another important concern is insurance related with the Sep. 11th attacks. Even tough to prevent two attacks is the first purpose; it will never be possible to prevent them. At this point, insurance takes place though there has been an important development of insurance topic after the Sep. 11th attacks; it still needs to better developments.

Although the focus of primary short-term activities must be to prevent further terrorist attacks on the global aviation infrastructure, further incidents cannot be totally excluded. In case of a breakdown of air services, the repercussions of insurance related issues are so enormous that they cannot be resolved by the airlines individually.

In the wake of 9/11, governments around the world were obliged to act as quasi re-insurers. In order to maintain the basic aviation infrastructure following 9/11, a mutual fund scheme proposal "Eurotime" was developed by European airlines to stabilise the industry in case of further terrorist attacks. However, this did not receive the necessary backing of all the Governments and the Commission at the time.

Following the failure of a similar global initiative at ICAO level, the Commission proposed to reconsider the shelved "'Eurotime" project. Accordingly in February 2004, Association of European Airlines presented a "New Eurotime" concept to Government and Commission experts. It involves government support for uninsurable third party liability risks. The Commission and national authorities should evaluate this concept without delay. Information has been received that insurers have decided to exclude chemical/biological bombs completely from third party liability. This would expose airlines to all uninsured third party liability in case of such an attack unless there is a government supported plan in place, such as the "New Eurotime". In summary, the required actions are focused on two points:

- Evaluation of a mutually acceptable insurance scheme ("New Eurotime") for liability risks in connection with security threats.

- Rapid implementation of such a scheme.

4.3.2.5 External Relations

International transportation is more important than departures for the future of air transportation. This requires providing relations with the 3rd countries. It will be touched on this topic but here it is needed to say that as Open Sky agreements, air services agreements, agreements are very important for developments of air transportations of E.U. in the future.

Corresponding traffic rights constitute a prime asset for the carriers operating to Third Countries, generating annual revenue of about €30 billion and directly employing more than 170,000 staff. More than any other aviation industry interest, the commercial and financial health of airlines is directly dependent upon the existing balance of operational rights and commercial opportunities with Third Countries. US and EU policy on anti-trust immunity is crucial for the efficient operation of airline alliances. In June 2003, the Council granted a vertical mandate to the Commission to open negotiations with the United States with the objective of establishing an Open Aviation Area (OAA) which would replace the traditional bilateral Air Services Agreements existing between Member States and the US. The ongoing EU/US negotiations for a comprehensive agreement to liberalise air transport within and between the EU and the US will serve as a template for negotiations with other regions. Many network carriers consider the North Atlantic traffic as the backbone of their livelihood.

Under the horizontal mandate which was also agreed as part of the June 2003 package, the Commission can negotiate with Third Countries to bring any existing bilateral agreements with individual Member States in compliance with the EU Treaty, and in areas of exclusive Community competence. European Airlines have expressed two concerns with regard to the implementation of the horizontal mandate. They relate to the lack of involvement of industry representatives in the meetings with Third Countries, and the dilution of traffic

rights related issues into a wider aviation context. In developing the External Aviation Policy, the Commission and Member States must jointly develop a stable, consistent and predictable regulatory framework with existing agreements as a starting point. New mandates for the Commission to negotiate with other third countries should aim to create added value for the EU aviation industry system and its customers in accordance with a set of criteria. The industry should be involved in developing these criteria given their inside knowledge of the markets in question. Action points can be listed as follows:

- Promotion of a fair EU/US Open Aviation Area (OAA): There are two main priorities closely linked to the ultimate goal of establishing an Open Aviation Area between the EU and the US: Regulatory convergence and liberalised market access to create fair and equal opportunities for airlines on both sides of the Atlantic. An OAA would thus not only provide for equal market opportunities; carriers from both sides of the Atlantic would benefit from a convergence of policies in areas such as competition, state aid, insurance and security. Divergent policies have proved to be a source of unnecessary costs and distortions of competition in the market. Such an agreement forms the nucleus for a regulatory framework which could become the template for further agreements of this sort and ultimately the model for a new regulatory framework to cater for global traffic flows. A standstill of relationships with the USA or any other Third Country because of an intra-Community institutional dispute should be avoided.

- . Development of a coherent policy on EU relations with Third Countries: Community agreements may be pursued at EU level on condition that they yield added value to the Community, it being understood that the Community has joint jurisdiction with the Member States. Over the past 50 years, the EU Member States have negotiated agreements with Third Countries in the interests of their national economies. The EU Commission must demonstrate that it can achieve added value by focusing on key Third Countries, it being understood that during the transitional phase the Member States retain the possibility to continue negotiations themselves. Association of European airlines submits that the Community should focus on Third Countries in accordance with a set of predetermined criteria. Such a policy could consist of the following criteria: the countries

in question should have a mature economy, pursue a market oriented economic and transport policy, the principles of which are similar to those of the European Community; the airlines from such Third Countries should not be renowned for abusive market practices, and the government of the Third Countries in question should not provide or be willing to grant excessive state aids to the aviation sector.

- Promotion of industry involvement: In preparing and conducting negotiations with third countries, the Commission should strive to benefit from the accumulated expertise of the private sector and the Member States. Negotiation teams should be created, similar to the approach pursued in other sectors.

4.3.2.6 Balancing Growth with Environmental and Safety Related Challenges

It is mentioned before that it is expected to increase in the number of passenger and demand in E.U. in the future. But with this increase there will be an increasing in environmental damages. Many airlines will not take preventions needed because of market pressure for low cost. At this point, it is required to an effective arrangements related to environmental and safety challenges.

Several Member States are contemplating the introduction of a kerosene tax on domestic services, as well as a bilateral kerosene charge. This could become a key issue for the Council in the near future. Studies commissioned by the EU Commission indicate the possibility of an emission charge of €50 per tonne of CO^2.

Increasing the costs of airline activity is not an efficient means of furthering the role of aviation for the European economy. A kerosene tax or an emission charge would limit demand and the financial and social costs would outweigh the CO^2 reductions, which would be negligible. Improvements to the airspace infrastructure with resultant reductions of holding patterns above over-saturated airports would be a far more effective tool for reducing emissions!

European airlines are opposed to any additional artificial financial burden effectively reducing the competitiveness. European airlines are aware of their social and environmental responsibilities and have spearheaded the development of high standards for the protection of the environment. The key objective of a European environmental policy should be to ensure that other regions of the world implement comparable measures. Environmental issues should not be abused for fiscal purposes (a kerosene tax to reduce budgetary constraints). Taxes and similar fiscal burdens should be reduced to a minimum. To assess how the environment could best be protected in the context of further economic and industrial growth, studies commissioned by the International Civil Aviation Organisation (ICAO), revealed that Emissions Trading Schemes could be the most effective and efficient way of catering for environmental concerns without artificially limiting demand and thus distorting market behaviour. European airlines will analyse how such schemes could be applied internationally so as to be able to contribute constructively, if and when ICAO were to strive to introduce such Schemes for aviation.

Regarding aircraft noise, the Balanced Approach consists of a staged set of measures ranging from limiting noise at source, to land planning, operational procedures and operational restrictions designed to reduce the objective and perceived level of noise attributed to aircraft operations. Although regulators at national and, particularly, at local level attach high priority to measures related to noise abatement, it would not be in the European interest for this issue to become a competitive one.

EU Commission should develop a level playing field by promoting a common knowledge of scientific research results as a basis for possible further regulatory action. The transformation of JAA into a European Aviation Safety Agency (EASA) has the potential to achieve lower costs for safety oversight, and efficiency. Vigilance should be employed to ensure that this objective is pursued. EASA should be in a position to ensure a level playing field across an Enlarged European Union with regard to safety provisions and their respective implementation. The main points requiring action can be listed as:

- Establishment of a working group of experts to identify the technical prerequisites of an Emissions Trading Scheme. Any scheme which is politically desirable and commercially/economically sensible should avoid discrimination against and between European airlines.

- Promotion of a standardised implementation of the Balanced Approach, developed by ICAO, with respect to noise developments.

- . Enhancement of the role of EASA, whilst ensuring its cost-relatedness.

4.4 TURKEY'S ROLE IN AIR TRANSPORTATION SECTOR

Turkey takes a vital role in global economy because of its rapid growth and size of economy. It becomes a huge market in Middle East and Europe as regards its increasing young population.

By becoming a member of NATO (1952) and the Council of Europe (1949), and signing and association agreement with the then European Community (1963), Turkey oriented its political and economic structure towards the west. Especially between 2005-2006 years, Turkey has taken very significant steps through the EU process and these changed it's future economical structure and become a target market for foreign direct investment.

Turkey's dynamic economy is a complex mix of modern industry and commerce along with a traditional agriculture sector that still accounts for more than 35% of employment. It has a strong and rapidly growing private sector, yet the state still plays a major role in basic industry, banking, transport, and communication. The largest industrial sector is textiles and clothing, which accounts for one-third of industrial employment; it faces stiff competition in international markets with the end of the global quota system. However, other sectors, notably the automotive and electronics industries are rising in importance within Turkey's export mix. Real GNP growth has exceeded 6% in many years, but this strong expansion has been interrupted by sharp declines in output in 1994, 1999, and 2001. The economy is turning around with the implementation of economic reforms, and 2004

GDP growth reached 9%. Inflation fell to 7.7% in 2005 - a 30-year low. Despite the strong economic gains in 2002-05, which were largely due to renewed investor interest in emerging markets, IMF backing, and tighter fiscal policy, the economy is still burdened by a high current account deficit and high debt. The public sector fiscal deficit exceeds 6% of GDP - due in large part to high interest payments, which accounted for about 37% of central government spending in 2004. Prior to 2005, foreign direct investment (FDI) in Turkey averaged less than $1 billion annually, but further economic and judicial reforms and prospective EU membership are expected to boost FDI. Privatization sales are currently approaching $21 billion.[454]

Table 4. 1 Economic Indicators of Turkey[455]

Annual data	2005(a)	Historical averages (%)	2001-05
Population (m)	73.3	Population growth	1.4
GDP (US$ bn; market exchange rate)	358.7	Real GDP growth	4.1
GDP (US$ bn; purchasing power parity)	581,822.4	Real domestic demand growth	3.8
GDP per head (US$; market exchange rate)	4,893	Inflation	26.9
GDP per head (US$; purchasing power parity)	7,937.4	Current-account balance (% of GDP)	-2.7
Exchange rate (av) YTL:US$	1.3(b)	FDI inflows (% of GDP)	1.4
(a) Economist Intelligence Unit estimates. (b) Actual.			

Turkey established an industrial base through state intervention and import protection in the post-war period. Policies have since shifted towards liberalization, but efforts to reduce the role of the state have been hindered by special-interest groups and political instability. A series of IMF-backed reform programmes have helped to lower inflation, improve the public finances and boost growth since the 2001 financial crisis. The government expects the three-year IMF stand-by loan agreed in May 2005 to be its last. Reducing

[454] http://countrystudies.us/turkey/53.htm
[455] Factsheet Mar 10th 2006 Economist Intelligence Unit

unemployment and income inequality are also likely to be key concerns, but may be hindered in the short term by the stabilization programme.[456].

Here are more indicators about Turkish economy on the tables / figures below.

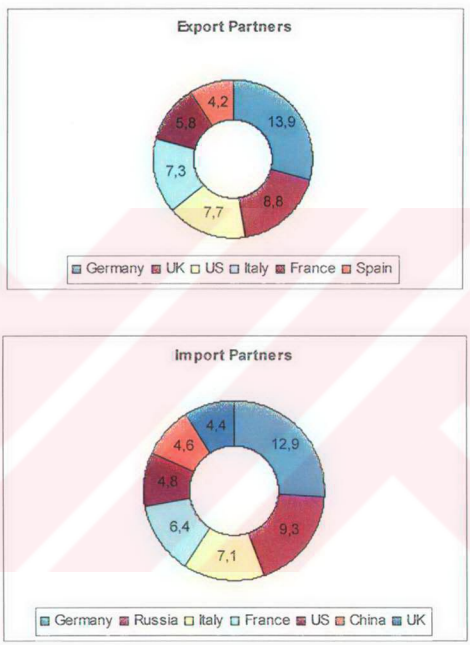


Figure 4. 9 Major Export/Import Partners of Turkey (%)[457]

[456] http://www.economist.com/countries/turkey
[457] http://198.81.129.100/cia/publications/factbook/geos/tu.html

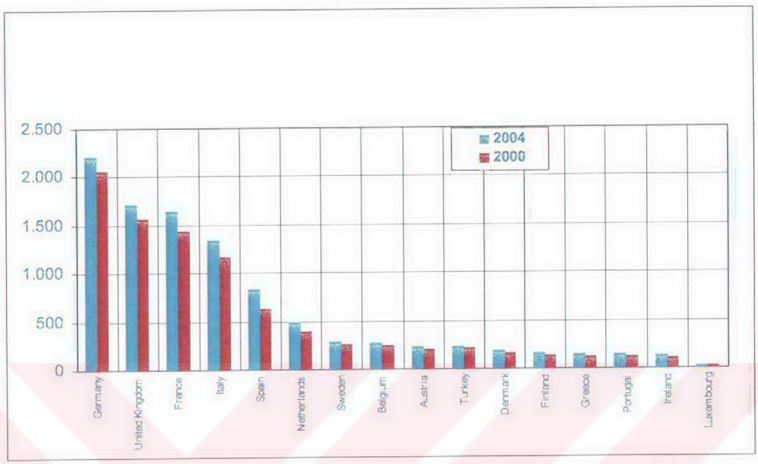


Figure 4.10 GDP (at Market Prices, Billion Euro) [458]

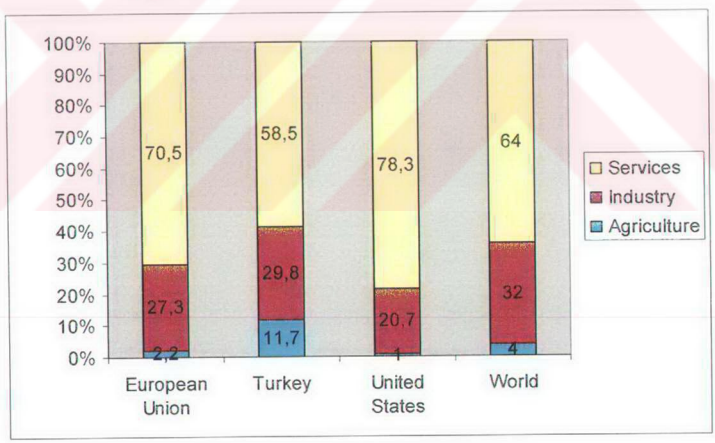


Figure 4.11 GDP - Composition by Sector (%)[459]

[458] http://www.die.gov.tr
[459] http://198.81.129.100/cia/publications/factbook/fields/2012.html

As seen above in the comparative figures, Turkey's global economic position is not as strong as a European or United States country. But it can be say, national economy of Turkey is having a process and there will be seen rapid developments in all sectors. Given its large size and growing population base, the residents of Turkey have come to rely on domestic and international air service.

Presently as of 2005 there are thirty-three commercial airports in operation. With a work force of 6,677 employees, General Directorate of State Airports Administration, (DHMI) is the largest procurement authority with respect to air traffic control (ATC) equipment, navigation aids, airside airport infrastructure, and airport security systems.

The Directorate is responsible and has the final authority for, licensing, tendering, building and operating of airports, air traffic control, airport management, ground services, airlines and air safety.

DHMI is a member of the ICAO (International Civil Aviation Organization), EUROCONTROL – European Civil Aviation Organization and ACI- Airports Council International.

As with all products coming into Turkey, the regime under the customs union between Turkey and the EU has come to point of making import procedures almost identical with EU requirements. The CE mark is required on all items that require a CE mark within Europe. Most of the civil aviation products fall under items, which need CE marking. All electronic goods, electrical goods and any product emitting radio transmission frequencies are such items. Software is not required to have CE marking, as are cables and other mechanical items.

In conjunction with its January 1, 1996 accession to the European Union's customs union, Turkey has adopted a new import regime. The new regime applies the EU's common external customs tariff for third country imports and provides zero duty rates for non-agricultural items of EU/EFTA origin. Since April of 2004, all electronics need to be CE

certified. This standard also used by the European Union is a must in order to import any electronics along with several other line items into Turkey. A question that arises quite commonly with aerospace products is second hand and re-furbished items.

Istanbul is the primary commercial air hub in Turkey. Other major facilities are located in Izmir, Ankara, Antalya, Dalaman and Bodrum. These airports offer either non-stop or direct scheduled or charter flights to several European, primarily German, destinations. Turkish Airlines extensive domestic route network offers regularly scheduled flights to Bodrum, Canakkale, Denizli, Kayseri, Neveshir, Trabzon, Gaziantep, Diyarbakir and Samsun. Apart from Turkish Airlines, a number of charter operators also offer non-stop or direct international flights including Air Anatolia, Onur Air, Pegasus, and Thomas Cook/Condor-Turkish Airlines partner Sun Express.

Turkey, a nation the size of Texas and Europe's second largest population, maintains a heavy reliance on domestic and international air service. In 2003, Turkey logged over 350,000 commercial flights. The majority of commercial flights originated or terminated at Turkish Airline's main hub at Istanbul Ataturk International Airport. Istanbul logged 161,827 flight operations in 2003. Other major airports with significant commercial traffic included the following: Antalya Airport with 68,764 flights and Ankara's Esenboğa Airport handling 35,961 commercial flight operations. Izmir, Turkey's third largest city maintained 25,592 flights.

4.4.1 EU- Turkey

The beginning of official relations between the European Union and Turkey dates back to 31 July 1959, when Turkey applied for association following the establishment of the European Economic Community by six countries. The EEC Council of Ministers accepted the application, and after the negotiations that followed the Ankara Agreement creating an association was signed on 12 September 1963 with the European Economic Community.

The agreement envisioned three phases: a five-year preparation period, a transition period (two separate periods of 12 and 22 years as of 1973) and a final period. A Customs Union

was planned to be completed by the end of the transition period. With the ending of the preparation period on 13 November 1970, the responsibilities of the two sides were determined in an Additional Protocol which took effect in 1973. According to the Additional Protocol, the free movement of goods, Turkey's harmonization with the EC's Common Agricultural Policy, the free movement of people and services, and harmonization with EC legislation on issues such as transportation and economy were to be realized.

With the Ankara Agreement, an Association Council, that met periodically and discussed matters involving the partnership, was formed. This institutional framework was widened with implementation of the last phase of the Customs Union.

With the signing of the Additional Protocol, Turkey has accepted abolishing customs duties on the EU's industrial exports and adopting the common external tariff of the EC that is applied to third countries. According to this a transition period of 12 years for lifting tariffs on industrial goods and a 22-year-long tariff removal calendar for weak industrial sectors were foreseen.

However, Turkey did not fulfill its responsibilities during the transition period, and tariff removal has halted between 1978 and 1988. The relations that were frozen after the 1980 military coup were given new acceleration with Turkey's application for full membership on 14 April 1987. The Commission, in its reply in 1989, stated that they will not be able to accept a new member until it has completed its internal market harmonization period; and completion of the Customs Union was recommended as a first step.

EU-Turkey relations gained a new dimension in 1993 with start of Customs Union negotiations. After two years of negotiations, the Customs Union between Turkey and the EU took effect on 1 January 1996 with Association Council decision number 1/95.

In the second Regular Report on Turkey which was published by the EU Commission on 13 October 1999, giving Turkey a membership perspective was recommended, and consequently at the Helsinki Summit which met in December 1999, Turkey was given the status of candidate country for EU membership.

The EU Council decision at Helsinki read: "The Council welcomes the recent positive developments in Turkey and Turkey's willingness to continue its reforms in order to meet the Copenhagen criteria. Turkey is a candidate country on the road to joining the Union based on the same criteria applied to the other candidate countries." The decision taken at Helsinki is a turning point in EU - Turkey relations. Following the Helsinki Summit, Turkey, like the other candidate states, started to benefit from a pre-accession strategy directed towards encouraging and supporting reforms.

The Association Council met for the first time in three years on April 2000 under Turkey's leadership. Two important political decisions were taken by the Council: The first was about the establishment of eight sub-committees within the framework of the Association Council, and the second was about starting negotiations for an agreement to be made for mutually opening EU and Turkish markets and the liberalization of services. The first round of negotiations has been completed.

The purpose of the Accession Partnership is to bring together under a single framework the priority areas that need to be worked on, which were described in the Commission's 2000 Regular Report concerning the progress Turkey had made on the road to European Union membership, the financial opportunities provided to Turkey for implementing these priorities and the conditions for this assistance. In the light of this Accession Partnership the Turkish Government adopted on 19 March 2001 the National Programme for the Adoption of the *Acquis* (NPAA). Turkey's National Programme was revised and published in the Official Gazette of 24 July 2003 within the framework of the latest developments. In the revised National Programme which was made public, short-term and medium-term targets were clearly stated.

The Programme sets forth a broad-ranged agenda of political and economic reform. At the same time an agreement about implementation, coordination and follow-up of the NPAA was signed. At the European Council held at Gothenburg on 15-16 June 2001 the National Programme was described as a positive development, and Turkey was encouraged to realise the Accession partnership which is the milestone of the pre-accession strategy.

At the Copenhagen Summit in 2002, the following decisions about Turkey were taken:

- Preparation of a revised Accession Partnership;
- Concentration of work on the harmonization of legislation;
- Development and deepening of the Customs Union;
- Significantly increasing financial cooperation; and
- Inclusion of financial assistance to Turkey in the accession budget. [460]

4.4.2 Airports and Airlines in Turkey

There are 62 airports in Turkey which were located in the various cities of the country. Some of them are opened to the international flights and some of them to the domestic flights only. In Turkey there are some regulatory structures which organize the carriers and airports. There has been described SHGM and Ministry of Transportation above. The regulatory organization for airports called DHMI (General Directorate of State Airports Authority) in Turkey. The management of the airports in Turkey and provision of the air traffic service and its control in Turkish Airspace is performed by General Directorate of State Airports Authority (DHMI).

DHMI is obliged to perform its tasks according to the international regulations and standards. In this respect, DHMI is a member of ICAO (International Civil Aviation Organization) which is constituted according to the Civil Aviation Agreement implemented in order to assure safety of human life and goods as well as sustainable development and economical growth. Furthermore, it is a member of pertinent organizations in international air transportation such as EUROCONTROL (European Organization for Air Navigation Safety) and ACI (Airports Council International).[461]

[460] http://www.deltur.cec.eu.int
[461] http://www.dhmi.gov.tr/newenglish

Table 4.2 Number of Airports by Year in Turkey[462]

YEAR	Only Domestic Flights	International-Domestic Flights	Private Statues Airports	Total Airports
1999	27	20	19	66
2000	27	21	19	67
2001	30	20	18	68
2002	30	21	17	68
2003	30	22	13	65
2004	31	21	12	64
2005	31	20	11	62

In Turkey there are many domestic and international routes.

Turkey currently has 14 airline operators. These are; Air Anatolia, Atlasjet International Airways, Bosphorus European Airways, Fly Air, Free Bird Airlines, Inter Airlines, MNG Airlines, Onur Air, Orbit Express, Pegasus Airlines, Sky Airlines, Sun Express, THY Turkish Airlines and World Focus Airline.Until two years ago, Turkish airlines were operating 60 aircraft with an average age of seven years. Some of the new carriers were originally running charter operations for the major tour operators but now four of these companies are operating new aircraft on the principle of 'low cost' and are experiencing rapid growth.

It is worth considering that during the last year there has been an increase of six million Turkish nationals using aircraft as a transport medium. The increase was from five million to 11 million, and 600,000 of these people were first time ever passengers!

4.4.2.1 THY Turkish Airlines

Turkish Airlines, Türk Hava Yolları, was reorganised in 1956 as a mixed corporation and in 1990 the airline's shares were transferred to the Prime Ministry Public Participation administration in the form of a privatization venture.

[462] http://www.shgm.gov.tr

The President and CEO is Dr Temel Kotil who was trained in the UK. The company employs almost 11,000 staff. They carried 12 million passengers in 2004 and in terms of profitability are ranked third in Europe. They have regular services to 76 international destinations and serve 28 domestic airports. They are not as yet members of any alliance but are investigating options.

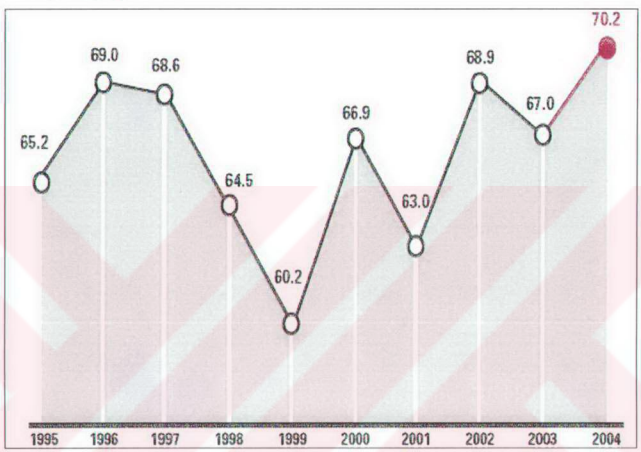
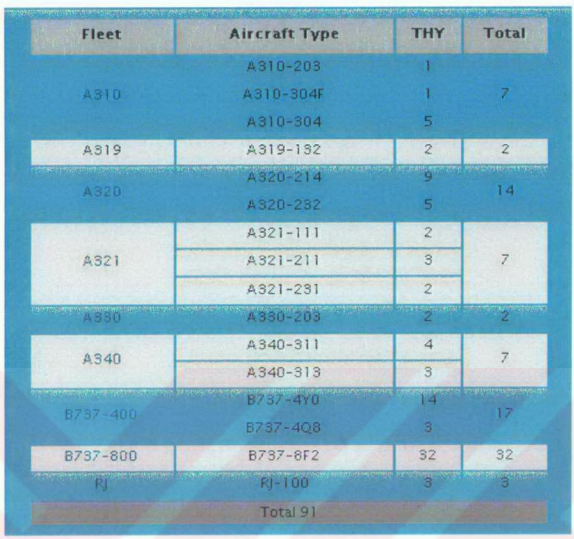


Figure 4.12 1995 – 2004 Passenger Load Factor of THY as percentage

To satisfy the continuing demand for air travel, the company has restructured its fleet to meet the information included in Figure 4.13.

The company operates domestic services to 26 Turkish airports and offers scheduled services to 75 international destinations. Istanbul really does provide a gateway between Europe and Asia and THY wants to develop their routes to the Far East, Latin America and the CIS countries.

In addition to increasing its destinations, THY have recently signed a joint venture with Singapore Airlines Technic to create a new maintenance facility and Training school at Antalya. This project will serve all airlines operating in the region and is valued at US$300 million.



Fleet	Aircraft Type	THY	Total
A310	A310-203	1	7
	A310-304F	1	
	A310-304	5	
A319	A319-132	2	2
A320	A320-214	9	14
	A320-232	5	
A321	A321-111	2	7
	A321-211	3	
	A321-231	2	
A330	A330-203	2	2
A340	A340-311	4	7
	A340-313	3	
B737-400	B737-4Y0	14	17
	B737-4Q8	3	
B737-800	B737-8F2	32	32
Rj	Rj-100	3	3
Total 91			

Figure 4.13 Fleet of Turkish Airlines Inc. [463]

4.4.2.1.1 Mission of THY

As Turkey's flag-carrier, the mission of Turkish Airlines is to provide air transportation services within the context of the following objectives:

- Strengthening the Company's position as a global airline by expanding its long-distance flight network,
- Positioning the Company as a technical service provider by transforming its maintenance unit into a leading maintenance base in the region,

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[463] At official web site of Turkish Airlines,http://www.thy.gov.tr, Turkish Airlines Inc. Copyright © 1999 - 2006

- Promoting the Company's identity as a service provider in all areas of strategic civil aviation, including handling and flight training,
- Maintaining the Company's leading position in domestic air transportation,
- Providing non-stop, high-quality air transportation services by collaborating with a global airline alliance that complements its network to further improve the Company's image abroad and increase marketing opportunities,
- Making Istanbul an important hub.

4.4.2.1.2 Ethical Codes of THY

The Company is committed to the following Rules of Ethics:

- Act in accordance with all liabilities deriving from national and international regulations and agreements concluded by the Corporation.
- Act assiduously and in accordance with the regulations whilst representing the Corporation before third parties.
- Do your job in the best possible way within the framework of the duties, authority and liabilities set out in the job descriptions.
- Act in accordance with the confidentiality principles with regards to information and subjects which require confidential treatment.
- Make sure that the assets and resources of the Corporation are used properly.
- Make maximum effort to protect the rights and benefits of shareholders.
- Make sure that the information, documents and records about ongoing operations are kept orderly, complete and secure.
- Behave towards customers (all customers, especially passengers) of the Corporation according to the Corporation rules. Avoid impolite and unhelpful behaviour, admonish in proper form people who are demonstrating such behaviour.
- Report to the relevant authorities errors that occur during operations and take necessary precautions in order to prevent repeats.

- Provide maximum contribution for the Corporation to achieve its objectives and accomplish its vision by working in accordance with the department objectives and strategies.
- Not derive benefits during the operations, not favour certain people or companies.
- Ensure a fair and safe work environment.
- Comply with the set competition rules in the highly national and international competitive environment.
- Support auditors and provide them with the necessary facilities and assistance if required.
- Be honest and reliable, respect moral values.

4.4.2.1.3 Some Data on Turkish Airlines Related to 2004-2005

In the year of 2004:

- Turkish Airlines made a TL 214 trillion net profit in 2003.
- Turkish Airlines has started to keep defibrillator on aircrafts.
- Turkish Airlines leased 2 A-310 aircrafts from World Focus Airlines for the periodic use in order to cover aircraft shortage until the delivery of the ordered aircrafts from Airbus and Boeing in August.
- Turkish Airlines declared TL 23.9 trillion profit on the temporary return of income related to the first half of 2004. According to IATA datas; as the international air traffic %20,4 and seat occupancy %13,2 was increasing, the number of the THY's passenger increased %22,6. At the same period, the total of the domestic passenger was 6,3 million and THY transported %74 of these passengers. The following figure shows the total seat capacity by years between 2000 and 2004.
- With the opening of Van Airport to flights which has been closed since 21 July 2004 because of the construction, THY has started scheduled Van fligths again since 18 September 2004, on Saturday.

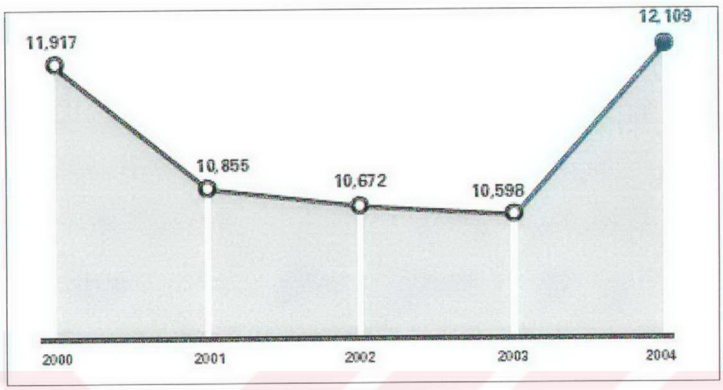

Figure 4.14 Total Seat Capacity (end 2004)

- In September American aircraft manufacturer Boeing, has chosen THY Technical Maintenance Center among the other alternatives in the district and signed a 10 year of aircraft maintenance agreement. This agreement would provide USD 350 million income. Also one of the biggest manufacturer, Honerwell, declared THY's Maintenance Center as an Authorised Repairement and Maintenance Center for acfm56-7b aircraft's fuel components for the first time in the world.
- Customer Online Service started on the website, www.turkishairlines.com.tr in September.
- THY made a TL 193 trillion(USD 128 million) profit in the first 9 months of the year. The number of the passengers increased %15,2 as compared to previous period.
- As a result of the agreement with Pakistan Airlines, THY increased İstanbul-Karachi flights from two to four weekly. Pakistan Airlines started İslamabad-İstanbul flights three times weekly. According to this agreement, Pakistan Airlines decided to make technical cooperation with THY on maintenance.

- Domestic flights have been increased in December and the winter season ticket fares were applied reasonably according to Revenue Management model, the balance between supply and demand.
- In the pilgrimage period of this year (15 December-24 February) THY made 623 roundtrip flights out of Turkey for Jeddah and Medina. THY transported nearly 80 tousand pilgrims.

- According to Cunsumer Report declared by AEA in December 2004; THY was the second in Europe about "ontime flights". The rates indicated that THY succeeded above avarage about ontime flights. According to this report, THY was the second lowest rate of lost baggage. Based on these results, THY was one of the most successful airlines in Europe.

In the year of 2005:

- Domestic ticket fares have been arranged again in 1 February 2005. According to this arrangement, while the previous fare application based on the flight times was continuing, YTL 20.00 discount has been offered for many flights.
- In 2004, THY reached its top in its history about the number of passengers, seat occupancy and the amount of the transported cargo. The rate of the number of the passengers increased %15 and rose 12 million as compared with 2003. %5 increase was recorded for the total of the flights. Thus, the seat occupancy in 2004 exceeded the level of %70 for the first time. Figure 4.15 shows the passenger occupancy of THY .
- Temel Kotil, Ph.D became CEO of THY. Dr. Candan Karlıtekin elected again as Chairman of the Board. Here are the Members of the Board (in alphabetical order): Mehmet Büyükekşi, Oğuz Borat, Candan Karlıtekin, Temel Kotil, Hüseyin Atilla Öksüz, Cemal Şanlı, Hamdi Topçu.

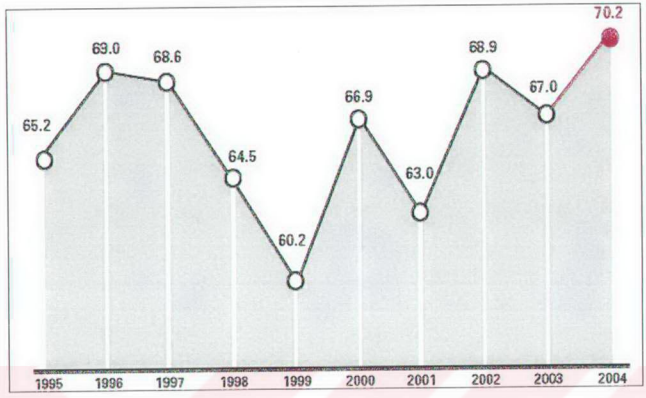

Figure 4.15 1995 – 2004 Passenger Load Factor of THY as percentage

- The amount of the transported cargo rose from 122.822 tons in 2003 to 134.851 tons in 2004. The amount of transported cargo reached its top in its history with %9,1 of increase in one year. Following figure shows the cargo and mail tons of THY.

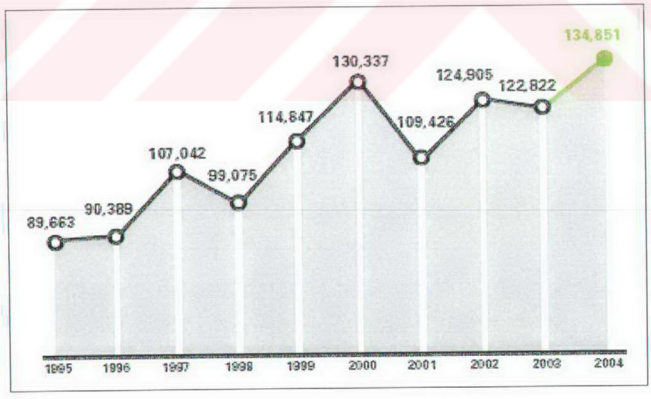

Figure 4.16 1995 – 2004 Cargo and Mail (Tons) of THY

- THY made nearly YTL 110 million (TL 110 Trillion) profit beyond tax
- Because of the restoration in Gaziantep Airport between 3 March and 3 June 2005, THY directed daily İstanbul-Gaziantep and Ankara-Gaziantep flights to Adana in order to prevent flight shortage.
- The annual inspection of Federal Aiation Authority of United States between 4 February and 18 February was compleately successful. According to the report; many workshops and departments of THY Maintenance Center were faultless. As a result of the report, the current maintenance certificate has been renewed.. The inspection report given by the unique authority of United States pioneering Civil Aviation in the world, certifying that THY can give maintenance service to all American civil airlines by indicating the capacity of the maintenance units are perfect.
- THY started flights in both direction between İstanbul and Casablanca, one of the most imported cities of Morocco, four days weekly on 27 March.
- THY's Casablanca Office was opened with celebration on 31 March.
- Privatization Bureau has %75,17 of THY's shares and shareholders and institutioins have %24,83 of the shares.
- The rate of the seat occupancy reached the level of %68,9 in the first quarter of 2005 (January-March) The rate of the number of the passengers increased %22,6 which was the highest rate in the last 10 years, from 2416 to 2961 in the same period last year. That's a record in the first quarter of year about passenger. In the first 3 months of 2004 the amount of transported cargo rose from 27,9 tousand tons in the same period last year to 29,9 tousand tons in 2005.
- THY has been operating flights from Sabiha Gökçen Airport on Istanbul's Asian side since 30 April 2004. Flights in both directios between Sabiha Gökçen Airport and İzmir, Trabzon, Adana and Antalya which are the most demanded, have been operated.
- Bilal Ekşi became THY's Executive V.P. (Ground Operation) on 9 May.

- THY started flights in both directions between İstanbul and Lisbon, one of the most important cities of Portugal, three times weekly on 7 June.
- THY celebrated 72th anniversary.
- THY started flights in both directions between İstanbul, Antalya London Stansted Airport on 14 June.
- THY has increased İstanbul-Kuwait flights from two to four weekly since 1 June.
- THY gave opportunity to university students "pre-career experience" called "111 Days at THY" in the summer
- THY has increased İstanbul- Karachi flights from two to four weekly since 5 June.
- THY started flight to Oslo, the Capital of Norway on 21 June.
- It was decided that INPACT INT/CAN INTERNATIONAL SUPERVISION would carry out the independent limited inspection service between 2005 and 2006 .
- Halil Tokel became Executive V.P. (Commercial)
- THY added Almaata and New Delhi to its cargo service network.
- THY increased flights in both direction between İstanbul and Konya from one to two as applied morning and evening on 22 August.
- Available seat kilometers increased 10.2% while revenue passengers kilometers rose by 15.4%. The number of passengers carried on domestic scheduled flights rose to 5.8 million, an increase of 16.2%; 5.6 million passengers were carried on international flights, a 14.7% rise. Figure 4.17 shows the Available Seat Kilometers and Revenue Passenger Kilometers by years between 1995 and 2004.
- THY has started to keep defibrillator to use for a sudden heart attacks on all A-340 lond-range aircrafts since August and educated fligth crew.
- THY Sport Club Chess Team became first in Turkey Chess Clubs Championship Final in Konya between 28 September and 3 October and raised to Turkey Super League.

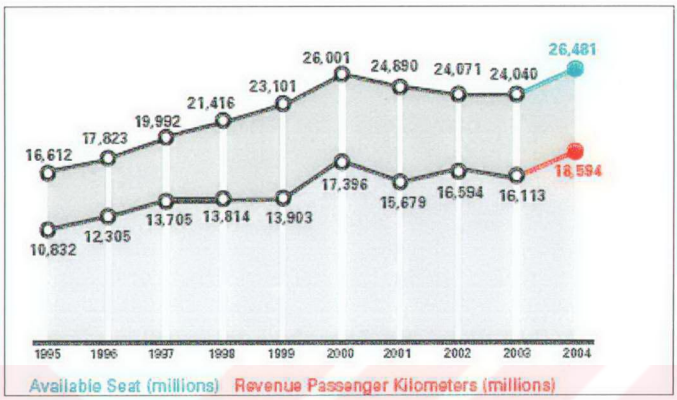

Figure 4.17 1995 – 2004 Available Seat Kilometers and Revenue Passenger Kilometers

- In October,our service and image was refreshed. The tulip symbolizes the transformation and refreshment.
- THY made YTL 27,5 million profit beyond tax in the first months of 2005.
- İstanbul-Denizli flights have been operating daily since August.
- THY has sponsored Antalya Golden Orange Film Festival which was held 42nd times.
- Discounted fares from YTL 59.00 have been offered special for Ramadan.
- THY started Astana, Kazakhistan flights on 19 October.
- THY applied precautions taken by " Security Committe" in Atatürk Airport in 12 October when Avian Influenza appeared in Turkey.
- THY undertook transportation of aid materials freely to Pakistan suffered from earthquake.
- International World Aviation Authority JAA Maintenance Standardization (JAA MAST) gave a report that " THY was performing at the highest level in terms of Technical Maintenance and Repairement" carried out "flight Safety Inspection" in Turkey.

- THY has been offering passengers different price alternatives through the new model since 1 November.
- THY leased 2 MD-83 aircrafts instead of RJ100 aircrafts from World Focus Airlines.
- THY decided to open up 23 new international destinations with increasing fleet by 59 new aircrafts.
- THY published awarded "Customer Satisfaction Survey" during one month on the web site (www.thy.com.tr / www.thy.com) aiming to offerits passengers higher quality service through passenger's demands and suggestions..
- Foundation of THY HABOM A.S , THY TEKNİK AS, THY EGİTİM were decided.
- THY planned to transport 90 tousand candidate pilgrims in 2006 pilgrimage season.
- THY started flights in both directions between Ankara and Samsun and also Istanbul and Kars on 17 December 2005.
- The first 3 aircrafts of 59 bougth from Airbus and Boeing ; the new generation Boeing 737-800, Airbus 320 and the first Airbus 330 in Turkey joined to our fleet in 15 December.
- In 15 December, THY's counters in Ataturk Airport have been arranged again to provide its passengers to board practically to their aircrafts without waisting time.
- Ankara Esenboga Airport Domestic Terminal (Terminal B) ,has been opened to service since 19 December 2005, after all the construction and maintenance have been compleated due to fire in 13 November 2005.

4.4.2.1.4 Policy and Objectives of THY

The policy of the company is based upon: Flight Safety, Economy, Passenger Comfort, Timely Schedule. Flight Safety is the first consideration of Turkish Airlines. Flight Safety within the scope of responsibility of the company covers Flight Operations , Flight Training

and Standards, Cabin, Maintenance Department,Ground Operations, Technical Training, Emergency Response Group and Flight/Maintenance/Ground Safety Managements. The four main objectives of the Directorate of Flight Safety and Quality Assurance are :

- Improving Safety in Flight and Ground Operations,
- Achieving and maintaining Risk Awareness by all persons involved in Flight and Ground operations,
- Taking corrective action for deficiencies and irregularities,
- Sharing experience acquired from safety events by evaluation and promulgation of information related to accidents and incidents.

Most importantly, the company is fully aware of the responsibility regarding the safety of the travelling public. Their interest in air safety and confidence in commercial air transportation are best served when the safety standards of Turkish Airlines meet international criteria.

4.4.2.2 Gözen Air Services

Mr. Metin Gözen, CEO, established his company in 1979 in the field of airline representation. The company now operates as an aviation group with an airline, an air services company, an airport security company, an airline security company and a certified aviation training school.

The airline, Free Bird airlines operates six Airbus A320-200 aircraft offering charter services to main European tour operators. The company also operates flight support services for business and recreational aviation operations. Gozen also has two companies which have been involved in aviation security for the last seven years. Both companies are leaders in their field in Turkey.

The company works in close co-operation with UK and US airlines in the field of passport profiles, documentation – in particular relating to passengers travelling to the United States, cargo and catering. Their clients include BA, Turkish and Israeli airlines Gozen are

currently in the process of establishing an IATA certified aviation training school in Istanbul.

Their partners in this venture are Lufthansa.

4.4.2.3 Onur Air

The company was established in May 1992 and is owned equally by Cankut Bagona, Hayri Icli, Unsal Tulbenci. It operates international services to 21 countries. These countries are: Albania, Austria, Belgium, Bosnia, Czech Republic, Denmark, France, Germany, Hungary, Ireland, Israel, Italy, Netherlands, Northern Cyprus, Poland, Portugal, Kosovo, Spain, Switzerland, UK and UAE.

Onur also offers low cost services to all main and regional airports within Turkey. Their fleet comprises: 1 x Airbus A300-600R, 1 x Airbus A300 B, 2 x Airbus A300 B4-100, 2 x Airbus A320-200, 2 x Airbus A321-100, 4 x Airbus A321-200, 4 x Boeing MD-88.

4.4.3 Characteristic of the Sector in Turkey

First step to the Turkish air transportation sector started with foundation of Turkish Airlines on May 20, 1933 in Ankara under Law No. 2186 as the State Airlines Administration working as a department of the Ministry of Defense. In 1935, it was transferred to the Ministry of Public Works; in 1938, it became the State Airlines General Directorate; as of 1939, it began to operate as a department of the Ministry of Transportation. In 1955, it was restructured by Law No. 6623 as a private company subject to private law. From then on, it operated under the name of Turkish Airlines, Inc.

4.4.4 Liberalization of Turkish Air Transport Sector

Air transportation sector in Turkey has shown an obvious development by means of putting the civil aviation law dated 14.10.1983 and numbered 2920 into force. Totally 19 companies are founded but ten of those went bankrupt in the same years in this term. Nowadays there are 15 airline registered to Turkey and one of them belongs the

government. It is shown that the informations about the public sector and private sector airline firms in Table 4.3 [464]

It happens at the same time that Turkish Airlines begun to renew its fleet in the frame of modernization program and it tends to external lines. In this process it is observed that there is an important increase in the number of private airline companies, their capacity of fleet and the share that they got from the sector. The sector continued the development trends till the end of the first part of 1990 was affected negatively because of the Gulf Crisis happened on the date of 2 August 1990 and the hot war following it. The increases in insurance payment, reservation and flight annulment result in recession of the sector in 1991. In 1992 the airline sector aviation is refreshed and this livening up process continued until 1995. [465]

The sector has a rapid growing up from 1995 till 1999 has been affected by some crises consequently. As a result of local crises in 1999, a very important decries in the number of passengers has seen in the sector.

Table 4.3 Fleet of Turkish Airlines

Company Name	Air Craft			
	Type	Number of Crafts	Number of Seats	Total Capacity
Türk Hava Yolları	A310-304	1+4	208+4(210)	1048
	A320-200	1	156	156
	A320-214	7	150	1050
	A320-214	1	156	156
	A321-111	2	186	372
	A340-313	2	271	542
	A340-300	5	271	1355
	B737-400	17	1(152)+2(148)+13(150)	2398
	B737-403	1	150	150
	B737-800	8+18	8(155)+18(165)	4210
	RJ-100	6	99	594
	RJ70	3	79	237
	A310-304F	1	38.000	38.000kg
	TOTAL	76		12.268

[464] Korul V., Küçükönal H., 2005, "Türk Sivil Havacılık Sisteminin Yapısal Analizi", Anadolu University Pres, Eskişehir, p.27

[465] Özenen C.G., 2003, "Havaalanı Yatırımlarında Özelleştirme Dünyadaki Uygulamalar ve Türkiye İçin Öneriler", p.24

Table 4.4 Fleet of Private Airline Companies in Turkey[466]

	B737-400	2	170 (340)	
Pegasus Airlines	B737-800	12	189 (2268)	2608
	MD88	5	172 (860)	
	A300B2K-3C	1	317	
	A321-200	2	2 (220)	
	A300B4-103	2	2 (316)	
	A300-600R	1	315	
	A300B4-203	2	2 (317)	
	A300B4-605R	2	2 (315)	
	A320-212	2	2 (174)	
	A321-131	2	2 (220)	
	A300B4-605R	1	315	
Onur Air	A321-231	4	4 (210)	5771
	A300B4-200	1	310	
	A300	6	6 (298)	
	A300B4-2C	1	283	
Fly Air	B737-300	1	148	2529
	B737-800	6	6 (189)	
Sun Express	B737-86N	1	186	1320
	A310-203	1+1	230+246	
	A321-211	1+2	220+2 (209)	
Kıbrıs THY	B737-800	3	3 (177)	1645
	MD83	4	4 (165)	
Free Bird Airlines	A320-212	2	2 (180)	1020
	B757-200	2	2 (219)	
	B757-200-ER	1	219	
	B757-225	1	219	
	A320-214	2	2 (348)	
Atlas International Airways	A320-232	2	2 (174)	1584
	B737-400	1+3	170+3 (168)	
Sky Airlines	B737-800	1	189	863
	B737-800	2	2 (189)	
Inter Express Airlines	Fokker100	3	3 (108)	702
	A300B2K-3C	1	298	
Saga Airlines	A310-304	1	218	516
World Focus Airlines	A310-203	2	241	482
	A300B4-203F	1	43.500 KG	
Kuzu Air Cargo	A300B4-203	1	45.00 KG	88.500KG
	A300B4-203	1+1	309 +326	
	B737-400	2+2	2 (168) +2 (170)	
	B737-448	1	168	
	CL601-3A	1	9	
	DC-9-82	2+2+1	2 (155)+2 (160)+163	
MNG Airlines	A300	6	6 (43.500 KG)	2281
	A300B4-203F	1	43.500 KG	
Orbit Express Airlines	A300C4-203	1	39.500 KG	83.00KG
				34.793 Passenger
Total		**193**		**470.500 kg Freight**

Terror events happened in USA in 11 September 2001 affected aviation sector negatively in all over the world and results in many aviation firms' bankruptcy or loose and this effect

[466] http://www.shgm.gov.tr

went in 2002. In spite of this negative affect, Turkish private airline companies continued their activity by increasing their passenger number in proportion to data of last year.[467]

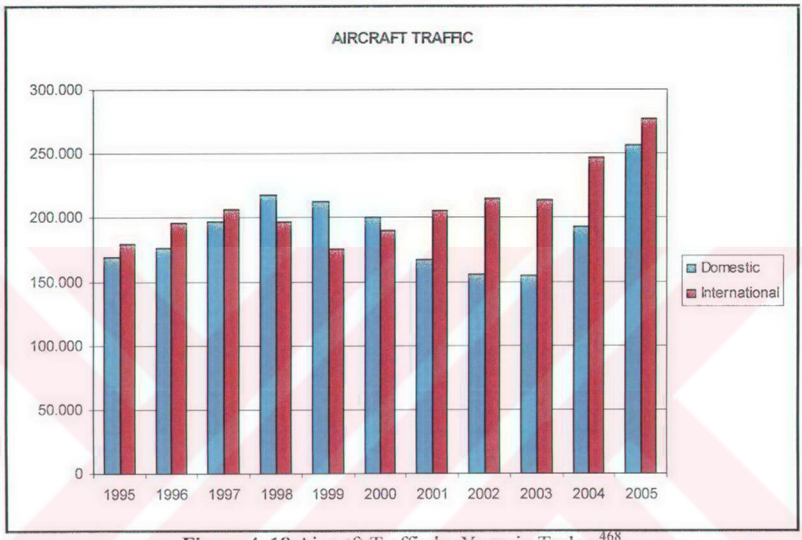

Figure 4. 18 Aircraft Traffic by Years in Turkey[468]

With respect of its geographic location, Turkey takes a very important place in the world regarding its airline transportation. Owing globalization and its results that growing up in inter-regional trade and tourism. It is observed that there is a 71.5 percent increase in overlifght after 1993.

[467] Korul V., Küçükönal H., 2005, "Türk Sivil Havacılık Sisteminin Yapısal Analizi", Anadolu University Pres, Eskişehir, p.28
[468] Avaliable on site : http://www.shgm.gov.tr

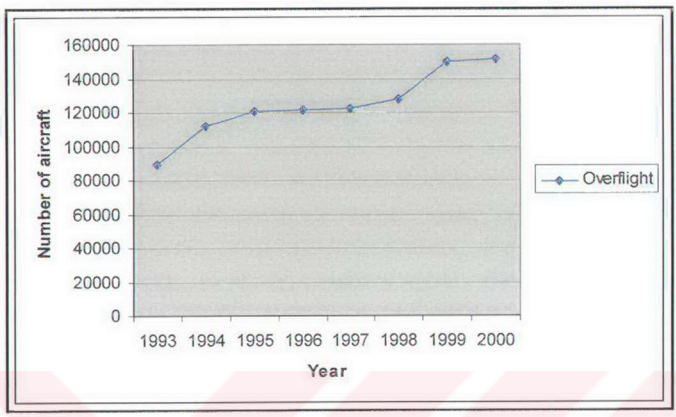

Figure 4.19 Overflights by Year in Turkey[469]

Turkish Airlines is stil the biggest company in the sector and it has organize scheduled and non-scheduled flight to 104 points, 28 of them are domestic lines. (Figure 4.18)

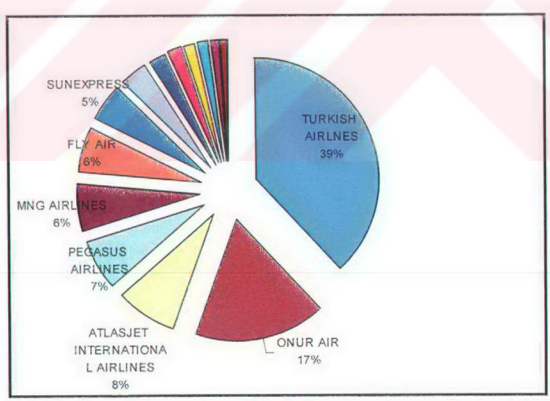

Figure 4.20 Market Shares of Turkish Airline Companies[470]

[469] Özenen C.G., 2003, "Havaalanı Yatırımlarında Özelleştirme Dünyadaki Uygulamalar ve Türkiye İçin Öneriler", p.28
[470] http://www.shgm.gov.tr

Table 4.5 Air Transportation Companies by Year in Turkey[471]

YEAR	TYPE OF COMPANY	NUMBER OF COMPANY	NUMBER OF AIR CRAFT	NUMBER OF SEATS
1998	AIRLINES	10	125	21.714
	TAXI PLANE	50	214	1.148
	GENERAL AVIATION	33	180	696
	TOTAL	93	519	23.558
1999	AIRLINES	9	123	21.405
	TAXI PLANE	56	228	1.225
	GENERAL AVIATION	45	192	779
	TOTAL	110	543	23.409
2000	AIRLINES	11	127	22.250
	TAXI PLANE	57	228	1.225
	GENERAL AVIATION	51	192	685
	TOTAL	119	547	24.160
2001	AIRLINES	14	145	25.305
	TAXI PLANE	57	228	1.225
	GENERAL AVIATION	47	172	489
	TOTAL	118	545	27.019
2002	AIRLINES	14	151	26.696
	TAXI PLANE	51	213	1.072
	GENERAL AVIATION	41	146	679
	TOTAL	106	510	28.447
2003	AIRLINES	13	150	27.124
	TAXI PLANE	50	131	700
	GENERAL AVIATION	33	152	330
	TOTAL	96	433	28.154
2004	AIRLINES	15	188	33.259
	TAXI PLANE	49	129	690
	GENERAL AVIATION	34	156	338
	TOTAL	98	473	34.287
2005	AIRLINES	16	220	37.351
	TAXI PLANE	52	148	785
	GENERAL AVIATION	34	157	340
	TOTAL	102	525	38.476

As seen in Table 4.5 there has been a slow developing in the air transportation sector in Turkey. After the privatization of Turkish Airlines, penetrating new companies into the market became easier.

[471] Özenen C.G., 2003, "Havaalanı Yatırımlarında Özelleştirme Dünyadaki Uygulamalar ve Türkiye İçin Öneriler", p.31

4.4.5 Management and Organization of the Aviation Society

4.4.5.1 Policy Making and Implementing Bodies of Turkish Aviation Sector

Ministry of Transport:

Directorate General of Civil Aviation: Licensing and monitoring of aircrafts and human resources

General Directorate of State Airports Authority: Management and operation of airports and air traffic control

Ministry of Defence:

Undersecretariat for Defence Industries: Management of military procurement projects including aerospace

Defence Industry Executive Committee: Decision making body for military procurement projects including aerospace

Science and Technology High Council: Planning of science and technology policy and general management of related funds

State Planning Organization: Decision and policy making body for research and development.

TUBITAK: Promoting, developing, organising, conducting and coordinating R&D.

Some data on the basic organization which aviation sector is directed by are these:

4.4.5.2 DHMI: General Directorate of State Airports Authority

Regulation and operation have been combined as government functions. The General Directorate of Civil Aviation in the Ministry of Transport regulates airline service and also operates the national flag carrier, Turkish Airlines (THY).

The management of the airports in Turkey and provision of the air traffic service and its control in Turkish Airspace is performed by General Directorate of State Airports Authority(DHMI).

Forming the infrastructure of Turkish Civil Aviation Sector by its facilities and installations, the organization has continued providing services with different names and status since 1933. In 1984, it became a State Enterprise by Decree 233 of Turkish Government and within the framework of its Principle Statute.

DHMI, whose accountability is restricted by its capital, is judicial and autonomous in its activities. The services provided by DHMI is regarded as concession by the latest legal regulation related with the Ministry of Transportation.

The goals and the activities of the organisation determined by its Principle Statute are as follows:

- Air transportation required with the civil aviation activities,
- Management of the airports,
- Supervision of the ground handling services,
- Execution of the air traffic control services,
- Establishment and operation of the air navigation systems and facilities,
- Establishment and operation of other installations and systems related with above activities,
- Improvement in aeronautical activities.

DHMI is obliged to perform its tasks according to the international regulations and standards. In this respect, DHMI is a member of ICAO (International Civil Aviation Organisation) which is constituted according to the Civil Aviation Agreement implemented in order to assure safety of human life and goods as well as sustainable development and economical growth. Futhermore, it is a member of pertinent organizations in international air transportation such as EUROCONTROL (European Organization for Air Navigation Safety) and ACI (Airports Council International).

DHMI provides air traffic services not only to national airline companies which are increasing day by day but also to more than 361 foreign commercial airline companies and

passenger and terminal services to approximately 35 million domestic and international passengers who prefer to transport by airlines.

There has been a significant increase in the aircraft movement and passenger traffic in recent years within the frame of air navigation and airport management services provided by DHMI. Major developments are realized in the international aircraft and passenger traffic of our international airports especially at İstanbul/Atatürk and Antalya airports, making them among the important airports of Europe as a consequence of the increase in the international traffic.

It is known that tourism is an income for the national economy of our country.Turkey tries to do its best in order to raise the revenues to be obtained from tourism sector. Especially in summer, almost all tourism activities are arranged by airways. Provision of airport management and air traffic control services by DHMI in the international standards is one of the most important reasons for our country to be preffered by increasing number of foreigners.When the studies that are made in order to comply with European Union (EU) criteria are taken into consideration, EU standarts were attained in the services provided by DHMI years ago.Turkey has become the leader country in the region by ensuring contemporary management, safe and fast air traffic flow. In order to maintain its situation , DHMI aims at "quality" principle consistently whilst pursuing the rapid progress in both management and air traffic control technologies. DHMI Vision in the provision of civil aviation activities is to provide air navigation services and operate aerodromes. They try in order to achieve "the best" at world level, as a safe, high-quality, dynamic, cost-efficient and environment-friendly organisation. DHMI is a general directorate which is under the ministry of transportation.

4.4.5.3 THK:Turkish Aeronoutical Assosiation(TAA)

The aim of the Society was to increase awareness in Turkey on the military , economic, social and political importance of aviation , to support the development of military, civil, sporting and touring aviation in Turkey , to prepare all the necessary material and

equipment for these activities , to train the personnel and finally create a 'Flying Turkish Youth'.

The THK plants produced fundamentally for the internal demands. However at the end of 1951 one THK-5A aircraft was able to be exported to Denmark. At first the aircraft operated as an ambulance aircraft under the name TYRKEN (TURK) and the Danish registration OY-ACK. During its service the aircraft flew 961 hours and 20 minutes. In 1960 it was resold and used by air taxi companies. After a landing accident at Aalborg on 18.11.1961, the aircraft was pulled from service. In the summer of 1962, the TYRKEN was placed in the children's park Lagunen as playing equipment. It could not be determined when the wreck finally was scrapped.

After World War II, the Turkish Government's interest in its own aircraft production program, rapidly decreased. In addition, enormous aircraft supplies had come from the USA. Therefore it is not surprising that at the beginning of the fifties the THK aircraft plants were experiencing great difficulties. In order to prevent the worst of it, the government decided to transfer the available plants to the Mechanical and Chemical Industries Corporation (Makine ve Kimya Endüstrisi Kurumu, MKEK).

In 1992 the THK began to build aircraft again. They bought up all rights to the NAC-6 Fieldmaster/Firemaster agricultural and firefighting aircraft, and tried to sell the aircraft on the market under the new name TAYSU (Tarimsal Havacilik ve Yangin Söndürme Uçagi). After producing only two airworthy and two completely assembled, but engineless aircraft, the production was stopped because of the general economic crisis and particularly because of internal association difficulties. Since these difficulties were apparently insurmountable, and new agricultural and firefighting aircraft were urgently needed, they finally bought at the end of 2001 five Polish Pezetel M-18B Dromader. The organizational schema of THK is shown in the figure below.

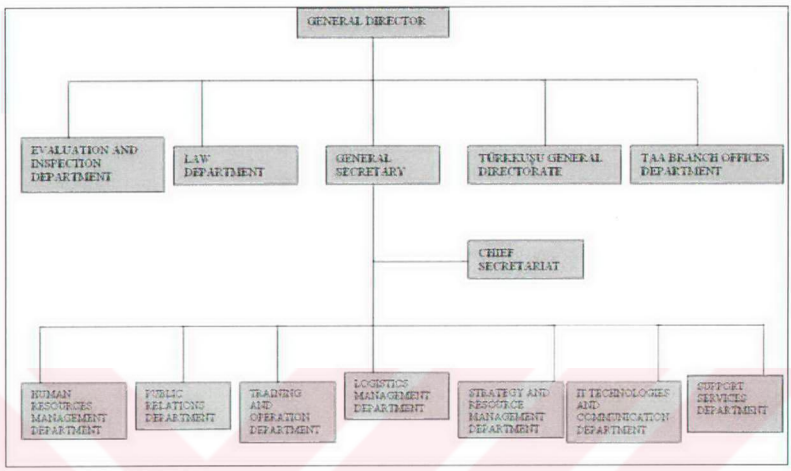

Figure 4.21 Schema of the Organizational Structure of THK[472]

4.4.5.4 Education in Aviation

4.4.5.4.1 Anadolu University Civil Aviation School:

School of Civil Aviation was established in 1986 to provide qualified personnel for rapidly growing Turkish Aviation industry. The School was the first educational and training organization in Turkey to meet all the requirements by the International Civil Aviation's Standards. Currently there are five departments; Avionics, Air Traffic Control, Flight Training, Aviation Management, Airframe-Powerplant Maintenance. Students completing the required courses of study in these programs (all five years, including one-year- English Preparatory School) receive a Bachelor's Degree upon graduation. Since there are a large number of career opportunities throughout the aviation industry, our graduates can easily find jobs. School of Civil Aviation offers an intensive combination of theoretical and

[472] Available on Official Web site of Turkish Aeronoutical Assosiation(TAA), http://www.thk.gov.tr

laboratory courses in well designed and equipped facilities. The School has its own Airport with 2600 m long illuminated runway, which is equipped with ILS, VOR, NDB and DME. It operates a fleet of 20 aircraft for in-flight laboratory teaching, a maintenance center for repairing various types of aircraft.

The School has been supported by national and international aviation institutions and has mutual cooperation between several aviation industries. It also provides special programs to offer in-service training to air traffic controllers, pilots and technicians for state-owned and private aviation sectors.

Sectoral Education statistical details in 2006 is listed below.

- Educational Departments
  - 2 Engineering Departments-141 students per year (Aerospace, Aeronautical, Astronautical Engineering)
  - 2 Aviation Schools-84 students per year (Avionics, Air Traffic Control, Flight Training, Aviation Management, Airframe-Power Plant Maintenance, Aircraft Electrics and Electronics)
  - Aeronautics and Space Technologies Institute
- Civilian Academic Staff
  - 23 Professors
  - 7 Associate Professors
  - 37 Doctors
  - 43 Research Assistants

The advantage of the educated staff in this sector will increase the Basic Characteristics of Aerospace Sector are Awareness of the Importance of R&D, develop the Experience and Capability in MRO (civilian&military) and also decrease cost of human resource.

4.4.5.5 The Organization of the Main OperatorTurkish Airlines Inc.

The main operator of Turkish Aviation Sector has been Turkish Airlines for a long time and it takes the role of a guide for the private firms of the sector which have been settled in the

last two or three decades. Hence, the specialities of THY reflects theirs. The Turkish Airlines organization schema is shown below.

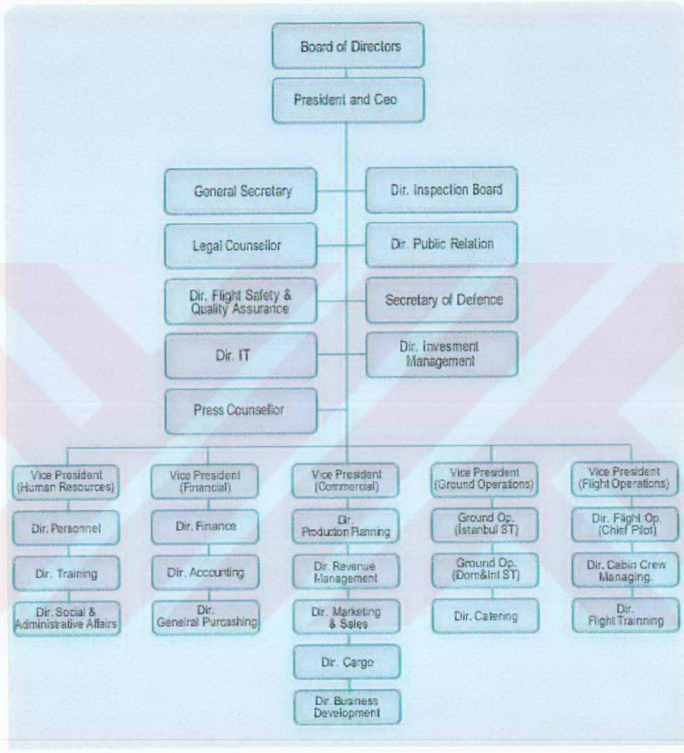

Figure 4.22 The Turkish Airlines organization schema[473]

[473] Available on Official Web site, http://www.thy.gov.tr

4.4.6 Turkish Transport Sector Overview

4.4.6.1 General Background

Turkey's geopolitical position as a link between the East and the West makes the transport sector crucial for the economic development of the region. Turkey is a major player both as a transit country and as an origin and destination of freight. The severe fiscal instability and the recent external developments with regard to EU accession and the growing role of Turkey in trade between Central Asia and the South Caucasus make the focus on transport even more important.

4.4.6.2 General Situation of the Transport Sector

Turkey is falling behind other middle income developing countries in reforms to move away from a production-oriented sector to a sector responding to market needs. The results of the present modeling of the transport agencies are: (i) over-dimensioned agencies; (ii) poor planning decisions, excessive priority given to large "political" projects at the expense of high return maintenance; and (iii) an excessive fiscal burden. There is a need to commercialize the provision of transport infrastructure and services and bring an element of accountability and transparency to their performance.

Transport demand in Turkey has grown significantly over the past five decades. Overall, demand (as measured by passenger-kilometers and ton-kilometers) has grown at an annual rate of nearly 8% since 1950. Demand for road transport has grown at an annual rate of about 7.6% while rail transport demand has grown at about 2%, demand for water transport by 5% and air at over 16% per year. As in most developing countries, road transport is becoming a much more significant factor for both freight and passenger transport.

Transport in Turkey has grown beyond the railway. Rail market shares have declined. It is not likely that much new traffic can be attracted to the railway without significant investment in new and very expensive railway infrastructure or major changes in railway service.

Road transport represented about 37% and rail 55% of the total transport market in 1950.

By 2000, road transport represented 93% of the total market, rail about 4%, water about 2% and air 1% of the total intercity transport market in Turkey. While the current rail transport task is not insignificant, it is certainly much less important to the economy of Turkey than in the past. Although TCDD's rail traffic market shares have declined significantly, overall railway traffic has grown somewhat. Total TCDD railway traffic units have grown at about a 2% annual rate.

4.4.6.3 Structure of the Transport Market

Transport demand in Turkey has grown significantly over the past five decades. Overall, demand (as measured by passenger-kilometers and ton-kilometers) has grown at an annual rate of nearly 8% since 1950. Demand for road transport has grown at an annual rate of about 7.6% while rail transport demand has grown at about 2%, demand for water transport by 5% and air at over 16% per year. As in most developing countries, road transport is becoming a much more significant factor for both freight and passenger transport.

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4.4.6.4 Market Highlights

Turkey is strategically positioned astride Europe, Africa and Asia. The Republic of Turkey shares a common border with nine other nations in the region. With a growing population,

rapid urbanization, a healthy foreign tourism industry and an active regional commercial base, Turkey has witnessed a need to further develop civil aviation and airport infrastructure in the current decade.

The Republic of Turkey is at the center of regional civil aviation development and has identified the following critical areas for development: renovation and modernization of existing airports; construction of new airport facilities; upgrading of ground and terminal equipment and systems; increasing the establishment of regional/commuter airlines; increasing general/business aviation services; privatization of the national airline/airport management operations; ATC improvements and upgrading; and the upgrading of airport and airline security. Given the current business climate, the Government of Turkey is asking the private sector to assume a greater role in managing the civil aviation industry. The first two examples of private terminal operation models in the region have already been established at the Istanbul International Airport and at the Antalya International Airport. In terms of privatization of state assets, the Republic of Turkey still needs to work on the privatization of Turkish Airlines, the national flag carrier.

Istanbul is the primary commercial air hub in Turkey. Other major facilities are located in Izmir, Ankara, Antalya, Dalaman and Bodrum. These airports offer either non-stop or direct scheduled or charter flights to several European, primarily German, destinations. Turkish Airlines extensive domestic route network offers regularly scheduled flights to Bodrum, Canakkale, Denizli, Kayseri, Neveshir, Trabzon, Gaziantep, Diyarbakir and Samsun. Apart from Turkish Airlines, a number of charter operators also offer non-stop or direct international flights including Air Anatolia, Onur Air, Pegasus, and Thomas Cook/CondorTurkish Airlines partner Sun Express.

4.4.6.5 Air Transportation Sector

The Basic Statistics of Turkish Air Transportation Sector is shown in the table below.

Basic Statistics of Turkish Air Transportation Sector			
	2004	2005	2006
Number of Commercial Aircrafts in Turkey			
Passenger	180	213	211
Cargo	11	21	24
Air Passenger Traffic			
Domestic	14,427,969	19,942,692	4,985,376 (by the end of march)
International	30,361,171	34,583,035	3,853,376 (by the end of march)
Airports			
Domestic	31	33	31
International	21	18	20

Figure 4.23 Basic Statistics of Turkish Air Transportation Sector[474]

Turkey is a member of has an International Memberships in Aerospace of Joint Aviation Authorities, European Civil Aviation Conference, European Organisation for the Safety of Air, Navigation (EUROCONTROL).

4.4.6.6 Market Data

The Government of Turkey spent USD 296 million (up from USD 148 million in 2003) for airport operations, made total revenue of USD 576 million and had a net profit of USD 280 million in 2004. The increased traffic of 25% domestic flights, 15.6 international flights and a staggering increase of 58.1% in domestic passengers along with 20.8% international passengers ensures that DHMI will continue to invest in its operations and safety and security applications.

[474] Enterprise and Industry Policy Agenda Item XIII: Aerospace, Screening Chapter 20 Enterprise and Industry Policy, AGENDA ITEM XIII: Country Session: The Republic of TURKEY 2006.

4.4.6.7 BOT (Build Operate Transfer)

DHMI wishes no longer to be involved on daily basis with the management and operations of airports. However they wish to be involved as a regulatory body and still want to have the final say on matters. The formula that seems to be working best for DHMI is the Build Operate Transfer model.

This model as it is quite clear from its name works flawlessly at the Istanbul international airport. The tender for this given out by DHMI requesting the building and operating of an airport under the specifications of DHMI and almost all revenue generated is then transferred to the operating body, in Istanbul's case it is TEV (Tepe Akfen Ven) consortium. The bidders must calculate cost of the specifications and determine a time period of which it expects an ROI (Return On Investment). In most cases this is seen to be 15 years.

The Istanbul Ataturk Airport, Turkey's largest airport is to be tendered out again this for a period of five years. The tender is expected to take place on July 2, 2005. The previous winners of the Ataturk Airport had been a consortium named TAV (standing for Tepe-Akfen-Vienna Airports). The successful model had been implemented without fault for the past five years by TAV.

The same BOT model is to be used for the two new terminals of the Ankara International and domestic airports. The terminals are still under construction and is expected to be completed end of 2006. Upon the completion of the terminals DHMI will tender management out under the BOT model.

4.4.6.8 Overflight Traffic

Turkey recorded over 191,056 overflights in 2004. Due to the strategic location of Turkey, overflight figures have always been high. Peak season of overflights were July,August and October.

4.4.6.9 Cargo Traffic

Istanbul is the main port of entry for more than 50% of Turkey's airfreight cargo. Again here we can see that overall traffic has increased as was the case with the passenger traffic. Cargo traffic increased from 931,191 tons in 2003 to 1,126,107 tons in 2004 an increase of 20.93%.

Due to its strategic location Istanbul is also a main port of cargo to third countries for packages coming in from USA and Europe forwarded to the Middle East.

Large carriers such as DHL, Federal Express and UPS continue to select Istanbul as regional hubs. Cargo traffic is expected to continue to increase especially as e-commerce takes on a larger volume. Sabiha Gokcen is on the prime list to become a cargo hub. Several carriers are in negotiations with the private airport (partially owned by the government) to have increased services in customs and logistics on site.

The cargo capacity of the four main companies is shown below with a pie chart. (2004)

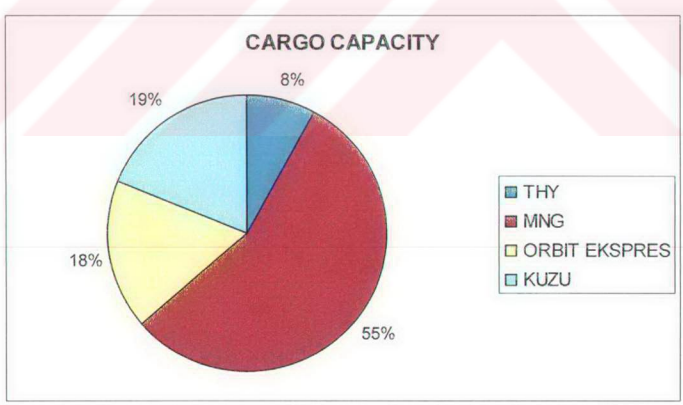

Figure 4.24 Cargo Capacity of the Airlines in Turkey (2004)

4.4.6.10 Competitive Analysis

Turkey has no domestic manufacturing of commercial aircraft nor locally manufactured air traffic control radar technology or Turkish made airport safety and security equipment. All equipment is imported from the United States, Europe or Japan. U.S. air traffic control equipment manufacturers will find their traditional rivals in the Turkish market. Companies including Thales and Alenia for air traffic control and Siemens and Heimann for x-ray technology can be found at Turkish airports.

In Security market Turkey continues to offer good sales potential for U.S. suppliers. The Turkish market for airport security and safety equipment offers growing opportunities for the sale of U.S. products. Domestic and foreign investments are expected to grow in response to the growing need for additional security measures for both general aviation and commercial air transport following 9/11. Turkey's current airport infrastructure consists of 33 airports. American suppliers enjoy an excellent receptivity and reputation for quality, reliability and price-competitiveness in Turkey. The total market size for airport security and safety equipment and services is estimated at approximately USD 20 million per year. The future for U.S. exports continues to be excellent, with an estimated 10 percent market growth rate anticipated for the next two years and a 20 percent annual growth rate projected for 2006.

Turkey's domestic manufacturing of safety and security equipment is negligible and the market is totally dependent on imports. American products dominate this sector with an 80 percent market share followed by Germany (14%) and Israel (6%).[475]

While there are no specific non-tariff trade barriers to this market, contractors usually require that foreign equipment suppliers have local representation for after sales service.

4.4.6.11 Market Size

Following is the market size estimate for the Aerospace Sector

[475] Safety and Security Market, ID: 109963, Industry Sector Analysis [ISA] Hulya Arac,2004

USD (million)	2004 (Actual)	2005 (Estimated)
A. Total Market Size	26.00	31.20
B. Total Local Production	2.20	2.64
C. Total Exports	0.65	0.78
D. Total Imports	23.80	28.56
E. Imports from the U.S.	15.47	18.56

Exchange Rate used: $1 = YTL 1.35

Note: The above statistics are unofficial estimates.

Statistics of the Turkish Civil Aviation Industry 2004, flight, passenger and freight statistics per airport.

Table 4.6 Statistics of the Turkish Civil Aviation Industry 2004[476]

Airports	Type	Domestic Flights (change from 2003)	International Flights (change from 2003)	Domestic Passenger Traffic (change from 2003)	Int'l Passenger Traffic (change from 2003)
Ataturk Istanbul	International / Domestic	72,479 28.6%	115,008 9.1%	5,430,925 73.7%	10,169,676 13.3%
Esenboga Ankara	International / Domestic	29,359 15.4%	12,539 19.3%	2,141,047 20.7%	1,134,678 12.3%
Menderes Izmir	International / Domestic	16,991 18.8%	11,744 4.1%	1,403,321 42.5%	1,538,960 13.8%
Antalya	International / Domestic	14,455 30. 4%	74105 28.5%	1,092,858 77.6%	12,563,195 28.8%
Dalaman	International / Domestic	5,215 3.1%	15,863 19.3%	189,877 14.3%	2,557,577 22.4%
Adana	International / Domestic	10,767 38.6%	2,890 10.5%	805,105 61.3%	342,378 18.9%
Trabzon	International / Domestic	6,332 65.3%	1514 -3.0%	718,735 91.9%	56,964 4.3%
Milas-Bodrum	International / Domestic	5,613 10.1%	10,516 18.2%	395,365 42.3%	1,641,259 24.2%

[476] Civil Aviation in Turkey 2005,Industry Sector Analysis (Isa),Ihsan G. Muderrisoğlu,Ankara - 2005

S.Demirel Isparta	International / Domestic	219 -18.9%	35 20.7%	92 n/a	3,769 30.7%
Nevsehir-Cappadocia	International / Domestic	205 8.5%	142 61.4%	706 -50.4%	9,226 -35.7%
Adiyaman	Domestic	20 -50.0%	-	-	-
Agri	Domestic	235 %+19.9	-	9,576 15.3%	-
Bursa-Yenisehir	International / Domestic / Military	1,275 -22.4%	194 +50.4%	937 227.6%	13,175 422.6%
Canakkale	Domestic / Military	441 -11.3%	4 (no previous record)	319 n/a	-
Cardak	International / Domestic / Military	701 6.1%	7 -53.3%	45,892 24.4%	227 -72.9%
Corlu	International / Domestic / Military	874 28.0%	204 -34.6%	-	9,964 -30.3%
Diyarbakir	International / Domestic / Military	4,011 75.2%	136 44.7%	483,354 136.0%	12,588 82.2%
Elazig	Domestic / Military	665 -16.2%	-	39,007 -4.2%	-
Erzincan	Domestic / Military	1,091 31.3%	-	10,253 10.253%	-
Erzurum	International / Domestic / Military	2,638 66.0%	200 30.7%	198,679 112.9%	19,305 67.7%
Gaziantep	International / Domestic	4,040 55.6%	329 21.4%	371,762 99.0%	39,451 8.2%
K.Maras	International / Domestic	4 -87.9%	0 -100.0%	-	-
Kars	Domestic	986 8.5%	-	86,281 58.9%	-
Kayseri	International / Domestic / Military	2,876 41.4%	1,340 15.2%	293,795 63.2%	173,533 19.7%
Konya	International / Domestic / Military	1,539 -3.0%	149 14.6%	73,967 19.0%	20,709 47.9%
Korfez	Domestic	637 -26.1%	-	1,649 -53.8%	-
Malatya	Domestic / Military	1,756 60.2%	-	140,230 56.4%	-
Mardin	International / Domestic	339 -6.1%	1 -50.0%	22,050 12.9%	-
Mus	Domestic / Military	416 26.1%	-	34,027 110.8%	-
Samsun - Carsamba	International / Domestic	2,789 46.3%	600 25.5%	242,806 81.1%	51,910 26.1%

Siirt	Domestic	44 37.5%	-	-	-
Sivas	Domestic / Military	226 606.3%	-	7,934 647.8%	-
Sanliurfa	International / Domestic	556 -8.4%	- -100.0%	26,503 12.3%	-
Ferit Melen	International / Domestic	2,904 -8.4%	20 17.6%	160,917 12.7%	2,627 116.7%
Total		**192,698** **+25.0%**	**247,540** **+15.6%**	**14,427,969** **+58.1%**	**30,361,171** **+20.8%**

In Safety and Security industry the current Turkish air transport infrastructure consists of 33 commercial/corporate aviation airports. In order to bring airports to International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA) standards, Turkish demands for airport safety and security systems are very much focused on technologically advanced, electronically controlled products and services. Both mechanical and electronic security products need a high level of maintenance and support. The United States has traditionally been the largest supplier of security and safety equipment to Turkey. Direct purchases from foreign suppliers are very rare and it is therefore important that U.S. suppliers work through established and well-respected distributors so that equipment installation is done properly and adequate after-sales service is provided. The ability to provide back-up services is often the most important criteria for being successful in marketing these products in Turkey.

Statistical data in this report applies to airport safety and security equipment and devices as described above. Imports of airport safety and security equipment in Turkey amounted to $21 million in 2002 are expected to grow by 10 percent annually through the year 2006.

Table 4.7 Safety and Security Market Size Table (Us Dollars Millions)[477]

	2002	2003	2004	Projected Average Annual Growth Rate for following 2 years
Import Market	21.0	23.0	25.0	10%
Local Production	0.4	0.4	0.5	5%
Exports	--	--	--	--
Total Market	21.4	23.4	25.5	9%
Imports from U.S.	16.0	18.0	20.0	15%

[477] Turkish State Statistical Bureau's import and export figures; estimates complied from the end-user, Directorate General of State Airports Administration (DHMI); and the Commercial Service Ankara estimates.

Exchange Rates approx. 1US$= 1,600,000 TL.

Last Year's Import Market Share (Percent for U.S. and Major Competitors):

U.S.: 80% Germany: 14% Israel: 6%

American suppliers of airport safety and security equipment enjoy an excellent reputation for quality, reliability, price and after-sales service. U.S. market share today is around 80 percent, but the future growth in market share depends mainly on marketing efforts and financing capabilities. Standardization of equipment plays a key role in maintaining the U.S. dominant position in the market. Local end-users are highly reluctant to invest in equipment offering technologies that vary substantially from application norms. Therefore, they typically like to source with suppliers of similar equipment. European countries are the main competitors to the United States, and they are expected to increase their market share due to their competitive prices, attractive soft credit terms, and modern technology. In order to keep a competitive edge, European companies invite Turkish decision-makers to visit their country to provide training for the professional technicians in the aviation and airport management field.

The ability to provide support services is an important criterion for the success of airport security and safety equipment sales in the market as customers usually require training, support and maintenance especially in the electronic fields. Local manufacturers often are associated with installation, security, and consulting and service firms.Domestic Production: Local production is less than one percent of the total market. In effect then, the market is totally dependent on imports to cover requirement. Local manufacturing consists mainly of simple/low technology equipment. 3rd-Country Imports: Major third country supplier to the Turkish market and main competitors to U.S. firms hail from Germany, Switzerland, Western Europe and Israel. German companies active on the market include: Gollmer & Hummell, Heiman, Scheidt & Bachmann, Vepro and Videotronic Uwe Bischke. Israeli companies active in the market include GSA Security, ICTS, and Magal. U.S. Market Position: American firms are the largest foreign suppliers to the market, accounted for some 80 percent of total imports. Main U.S. suppliers to the market are Sensormatic

Electronic Corp., 3M, EGG Astro Physics, and Perkinelmer. However, technological advantage is not the only factor determining success in the market. American companies should focus on educating system users as well as other players in the distribution network channel. This will ensure that users will take full advantage of the capabilities of their newly acquired technology.

4.4.7 Future Trends in Turkish Air Transportation Sector

In 2005 Turkish Airlines (THY) announced plans to purchase 15 of the single-aisle 737-800s and took an option to buy another eight, as well as ordering 36 aircraft from Boeing's European rival Airbus. Turkish Airlines has decided to issue a definite order for the optional eight B737-800 planes under the framework of its agreement with Boeing, declared in a statement to the Istanbul Stock Exchange on Friday, July 01, 2005. This brings the total number of planes that are being purchased from Boeing to 23. A spokeswoman for Boeing also confirmed THY was exercising the options on eight planes, adding to the 15 ordered on the September of 2004. It is expected to finalize the order for (the) eight more in a couple of weeks. The eight planes are valued at about $524 million at list prices, though discounts are common in the industry. THY plans to increase its fleet to more than 100 aircraft by 2008. It agreed in 2004 to buy 12 Airbus A321-200 and 19 A320-200 single-aisle planes and five A330-200s widebody aircraft from Airbus, which is owned by the European Aeronautic Defense & Space Co and Britain's BAE Systems Plc. Around 25 percent of the shares in state-controlled Turkish Airlines are traded on the local bourse following a December public offering. By 1237 GMT the shares were up 1.3 percent at 7.65 new Turkish lira. The government has said it plans additional offerings of THY under its multi-billion dollar IMF-backed privatization program but has not set any timetable for further floats.

Aerospace Policy

- 8th Five Year Development Plan
    - As a knowledge and advanced technology based industry, to increase the competetiveness and development of aerospace industry has a priority.

- An Aerospace Organisation will be established in order to coordinate the related facilities.

• Circular of Science and Technology High Council Decision

(22 October 2004)

- The Decision to Establish an Aerospace Studies Council and to prepare a Turkish Space Policy

• Circular of Science and Technology High Council Decision

(12 April 2004)

- The Decision to Start a National Space Research Programme Ongoing Partnership Projects with EU Companies

1. A400M TRANSPORT AIRCRAFT (TAI)
   - Partnership with Airbus Military S.L.
   - 10/180 Aircrafts
   - 7.15% of the Structural Package (middle fuselage, emergency windows, doors, upper-rear fuselage)
   - 1.26% of the System Package (lighting system, disposal system)
2. AB139 HELICOPTER PROJECT (TAI)
   - Partnership with Agusta
   - 250 AB319 helicopter fuselage within next 12 years
3. MANUFACTURING OF FUSELAGE PANELS FOR AIRBUS (TAI)
   - Partnership with EADS-CASA
   - 300 sets of fuselage panel for A319/320/321 aircrafts
   - 105 sets submitted

4.4.7.1 Taxi-Planes

The project "taxi-plane" envisaging flights with the capacity of 50 passengers will start this summer. With the "taxi-plane" project, flights will be able to be done too much smaller landing-grounds where trade, tourism and industry are concentrated.

The taxi planes which will allow our citizens living in the cities where there are small landing-grounds to travel via plane are starting their campaigns at the beginning of this summer. The 50 passenger capacity planes will make transversal flights between large airports and smaller landing-grounds or between the cities possessing small landing-grounds. The Ministry of Transport has given form to the project defining the details of the "taxi-plane" project which was made public by the General Management of Civil Aviation.

The significance of air travel sector has recently increased in both domestic and foreign transport in which people aim to get to their destination in the shortest possible time; factors such as time and speed are regarded very important. As a result of this, it is highlighted that the necessity of supplying "cost-efficiency" in the air transportation, which is the most expensive form of transport, has emerged. Due to this compulsion, the necessity of supporting of large-scale activities by smaller-scale and regional activities has come on the agenda. It is possible to define the taxi-plane project as transversal flights with small fuselaged planes from the smaller landing-grounds in Turkey and also abroad to smaller and more conventional airports. The significance of the project will be understood better in time.

It is expected that flights especially through the routes Antalya-Nevşehir- Kapadokya-Dalaman-Bodrum-Denizli, Antalya Alanya Gazipaşa, İstanbul – Bursa-Çanakkale will start.In addition, there is a possibility that transversal flights from Trabzon to Batum will begin.

4.4.7.2 Aero-Taxi

It is determined that the taxi-plane project which will be realized by transversal flights and devoted to carrying much less passengers is the second phase of the regional airline transport. Our airline transporters seeing the fact that the flights based on carrying much less passengers can't be done by big aeroplanes in our country's small landing-grounds -as it is so in other countries- are doing the market and financial analysis related to small fusel aged planes. It is expected that there will be a great variety of aeroplane types in our companies' fleets in the near future. It is foreseen that the project will ensure the passengers

to get to their destination faster and more economically and also affect the subordinate sector of the Civil Aviation industry.

It is observed that the regional airline transport has gained emphasis and momentum, the legal obstacles for the private airline companies have been abolished in order that they can start domestic flights on tariffs, the number of airline companies and airline vehicles have rapidly increased and travels by planes have become more preferable after the reforms on ticket prices. There has been an increase by 129 % in the domestic flights between the years 2002-2005. The increase on the demand for domestic flights has urged all the airline transport companies to fly to the destinations beyond the principal centers. [478]

4.4.8 Accession for EU

4.4.8.1 The Prospect for Accession to the EU

Transport is normally one of the five major issues in the EU accession agenda (macro stability, labor, agriculture and the environment are the others). Problems range from physical integration to the harmonization of infrastructure, vehicles, environmental and other standards, the development of logistic networks, the improvement of border crossings and trade facilitation policies (modernization of customs, etc.). EU requirements include the mandate that government separate out social services from commercial services, a requirement that will have a special significance for TCDD (Ports and Railways). Aside for its importance to rail restructuring (see below), it also has significant fiscal implications for the Turkish Government.

4.4.8.2 Effect of Turkey's Entry to EU on Turkish Aviation Industry

Turkey has been a candidate country to EU since 1963 Rome Treaty. The relations with EU have progressed slowly but steadily and recently Turkey has started final talks with EU. Civil aviation in Turkey has been controlled by the state untill 1984. During Özal Government civil aviation market has been partially liberalized and state monopoly has

[478] Hürriyet,22 April 2006

been ended. Private airlines and airports has been established. Turkish airlines (THY) is a state company, it has been established by the state to start Turkish civil aviation and to display Turkish flag in world aviation market. It is a strong regional player but not a very profitable company. Currently there is a privatization movement in Turkey. Current government is planning to privatize THY. Since THY is a major player in Turkish airline industry ownership structure of THY would effect the future of Turkish aviation market. EU has strong regulation on competition. By entering the EU the state funding to THY will be subject to commission approval.

Aviation industry specialists estimate that in near future there would be four to five big players remain in world airline market. By entering to EU, THY would be likely to make partnership agreement with the major EU airline consortium. Currently there are two trends in aviation industry the one which is adopted by the Airbus industry assume that long range air transport would be the fastest developing segment of the industry and Airbus developed A3xx plane following that perspective. Second trend, which is adopted by the Boeing assume that medium range air transport would be the fastest developing segment of the industry. Boeing currently is developing a plane that can travel with the sonic speed. That makes travel time shorter. Since THY is strong in medium range travel segment, it might adopt Boeing planes. Plane purchases are political decisions and these depend on directions of the talk with the EU. Turkey has strong manpower in aviation industry. By entering EU Turkey's aviation industry may increase its share in EU maintenance market, ground services and air traffic management. As a EU member, Turkey should adopt commission regulatory decisions and this brings more customer rights and safer flights. Turkish airline companies such as Onur air, Pegasus, Atlas jet would benefit Turkey's EU membership. Membership would increase air traffic between Turkey and EU member states. EU membership would make Istanbul a hub for air travel. Increased air traffic between Turkey and EU countries would increase utility of Turkish airports and make them more profitable as a consequence domestic air travel would be more popular.

By entering EU Turkish companies would get more contracts from the new generation passenger planes, fighter planes and helicopter projects. Because of more competition air

travel would be cheaper for both domestic and international flights. EU membership would bring dynamism to Turkish aviation industry.

4.4.9 Privatization

The Privatization Program, which constitutes an integral part of the irreversible transformation process of Turkey, aims at minimizing government intervention in the economy, while increasing productivity and efficiency of production in general; even further increasing employment and also deepening the existing capital market by promoting wider ownership.

Turkish Airlines was founded under Law No.2186 in Ankara on May 20,1933,under the name "State Airlines Administration"as a Department of the Ministry of Defense. Its administration was later turned over to the Ministry of Public Works in 1935 and the name was changed to "General Directorate of State Airlines"in 1938.From 1939 onwards,it was operated under the Ministry of Transportation. Turkish Airlines was reorganized under Law No.6623 in 1955 as a corporation managed and operated under private law,and was renamed "Türk Hava Yolları Anonim Ortaklığı"(Turkish Airlines Inc.). The Company was reclassified as a "State Economic Enterprise" by Statutory Decree No.233 on Certain State Institutions and Enterprises,which was published in the Official Gazette No.18570 on November 9,1984. The Company was included within the scope of the privatization by the Council of Ministers Decree No.90/822 dated August 22,1990, published in the Official Gazette No.20646 on September 25, 1990. Under Article 35 of Law No. 4046 on Regulation of Privatization Procedures and the Amendment of Certain Statutory Decrees published in the Official Gazette No.22124 on November 27,1994,Turkish Airlines was redefined as a State Economic Enterprise and placed under the jurisdiction of the Privatization Administration. The Privatization High Council decided to establish golden share in Articles of Association granting special management and approval rights to the State on 08.12.2000 No.2000/87. Articles of Association, which is still in force, has been amended in compliance with Article 20/a of the aforementioned law on 17.01.2003 including the new scope of golden share. The government is fully committed to open up the

domestic and international passenger carrying / air transport services market to full competition. With this target, Turkish Airlines – THY will be privatized.

In December 2004, 23% of the shares were offered to public and the Administration's shareholding structure reduced to 75,18 %. After the public offer in May 2006, Administration's shareholding structure reduced to 46.43 %.

4.4.9.1 Economics and Privatization

Today, Turkey's private sector dominates economic production and is the engine for growth. Reinvigorated economic reform, including privatization, will reduce the State's share of the economy, although the GOT, in the form of State Economic Enterprises, continues to control directly a significant share of economic activity, especially in telecommunications, energy, iron and steel, and transportation. Despite the growing role of the private sector, the GOT continues to be a major actor in the economy due to bureaucratic "red tape" requirements, lack of transparency in regulations and standards, and weak enforcement of existing regulations. The GOT adopted a foreign direct investment law in early June 2003 that aims at decreasing the bureaucratic hurdle for investors.

Turkey needs to improve its investment climate by reducing bureaucratic red tape, ending foreign investment screening, strengthening enforcement of intellectual property rights (IPR), and improving transparency in both public procurement and development of industrial standards. Privatization of several parastatals including Turk Telekom and Turkish Airlines are still being planned.

Turkey's current economic reform program has two primary objectives. The objectives are to conquer the persistent high inflation of the 1990's and overcoming macro economic instability. The 1999 stand-by agreement signed by the IMF mainly focused on combating inflation, however the inflation rate has again risen following the economic crises of November 2000 and February 2001. The current IMF stand-by agreement signed on January 18, 2001 has as its primary objective to achieve sustained non- inflationary growth. The program started to show results with a 1.6% month-on-month CPI inflation

rate, and a 32.7% average annual inflation rate as of May 2003. The nation also witnessed a Turkish Lira 4.9 quadrillion ($3.2 billion) consolidated budget primary surplus from January 1 to May 30, 2003. The new economic program focuses on inflation targeting under a floating exchange regime. The Central Bank wants to direct monetary policy to achieve the 20% year-end inflation target in 2003. In May 2001, the first major step was taken towards targeting inflation by granting the Turkish Central Bank full operational independence to pursue price stability.

4.4.9.2 Import Climate and the CE Mark

Turkey's January 1, 1996 accession to the European Union's customs union has resulted in zero duties for imports from the EU countries and the same agreement has led to general reductions in duty rates assessed to non-EU third-country imports. To further bring Turkish industrial standards in line with the European Union, the Undersecretariat for Foreign Trade adopted European industrial standards in twenty-three categories, a number of which affect equipment and technologies located and in use in major terminal and ATC facilities. As of 10 April 2004, U.S. manufacturers must confirm conformity to EU standards for low voltage, electro magnetic compatibility, the telecommunications directives, the construction equipment directive and a host of other EU regulations that deal with standards conformity and the CE mark. At the time of this report, the Government of Turkey has not adopted EU industrial standards for its domestic industry and has thereby created a two-tier system of standards until such time as domestic industry becomes compliant with the EU directives.

4.4.9.3 EX-IM Bank Financing

The Export Import Bank of the United States (Ex-IM Bank) provides financing to creditworthy private and sovereign foreign buyers when private financing is unavailable. To qualify for Ex-IM Bank support, the product or service must have at least 50 percent U.S. content and must not affect the U.S. economy adversely.

Ex-IM Bank supports the sales of U.S. exports worldwide. Ex-IM Bank will finance the export of all types of goods or services, including commodities, as long as they are not military-related (certain exceptions exist). Two of its major goals are to increase the export of environmental goods and services, which are in strong demand among the developing nations, and to expand the number of U.S. small businesses using Ex-IM Bank programs. Ex-IM provides several programs to assist U.S. exporters with their financing needs. The following information is provided as a guide as to those services.

The Working Capital Guarantee Program is a pre-export financial tool to enable exporters to obtain necessary working capital in order to bid, construct or enhance production and complete foreign contract awards. Delegated authority is available to lenders enabling them to commit Ex-IM Bank's guarantee and to share in the fee income.

The Export Credit Insurance program helps U.S. exporters develop and expand their overseas sales by protecting them against loss should a foreign buyer or other foreign debtor default for political or commercial reasons.

To encourage the export of U.S. goods and services, Ex-IM Bank has tailored its policies to meet the insurance needs of exporters and financial institutions. For example, insurance policies may apply to shipments to one buyer or to many buyers, insure comprehensive (commercial and political) credit risks or only specific political risks, or cover short-term as well as medium-term sales. Three policies, the Small Business Policy, the Small Business Environmental Policy and the Umbrella Policy, are geared specifically to small businesses just beginning their export sales program. Eligibility criteria differ for each type of policy.

CONCLUSION

With the improvements of modern technology, daily life has changed so that the distance between the individual and the rest of world is shorter than it used to be. in keeping with this, human thinking, the way that people do business, society and the world economy have also changed. As a part of the world economy, the international air transport sector cannot avoid change either. However, the obstacle in this sector is that the airline industry is heavily involved in national interests. The rise of alliances moves away from strict government restrictions on substantial ownership and effective control and the limitation of freedom of exchange of traffic rights; in addition, international air carriers believe that they can obtain more benefits from a free-competition market.

Air transport is the fastest growing mode of transport. International air transport is the fastest growing segment of the air transport market. It provides an important mode of transport for business travel and is the main transport underpinning of the European tourist industry. Airlines and the associated infrastructure required to allow their efficient operations are major employers. Air transport has also traditionally been one of the most regulated modes of transport. This has partly been for reasons such as safety and national defense but interventions of an economic nature have also been extensive. Governments have manipulated prices, market entry, service quality and other aspects of international aviation markets as well as often taking airlines into state ownership in efforts to achieve a variety of noncommercial objectives. Air transport infrastructure is also largely publicly owned.

The institutional changes that began in the US domestic air transport market in the late 1970s and have spread across a number of other national markets such as Australia, Canada and New Zealand have belatedly taken an international dimension. Liberalization of a range of international bilateral agreements have taken place, largely in a piecemeal fashion The EU has been part of this international process, both as an entity in its own right and also through the actions of individual Member States. There have been some physical restrictions to the way EU aviation could have developed although these should not be

overplayed. The reality of the existing air transport infrastructure in the EU means that there are physical restrictions on the pace and nature of change and on its outcome. Overall capacity problems can result in the full potential of the sector not being realized. Over investment, however, is wasteful of resources that can more effectively be used elsewhere. There exists a set of clear cost-benefit guidelines as to the extent to which capacity should be varied. The practical issue seems more to be one of deriving operational ways of using these policy assessment tools than the underlying theory. There have also been changes in the internal structure of air transport as, in particular, airlines have sought to more completely exploit the potential cost economies and, more important, marketing economies associated with various forms of alliance. Code sharing and common frequent flier programs coupled with coordinated schedules are features of these. Public policy makers have in the past tended to stand by while these alliances have been formed and only intervened at the margin. The arguments of enhanced consumer benefits and the creation of greater market stability are influential factors.

Europe's high cost airlines have enjoyed protection from competition for many decades. However, market liberalization and the change to multilateral rather than bilateral aviation agreements are increasing market pressures on the protected airlines. In addition, the privatization of airlines has paved the way for globalization, when airlines will no longer be identified with a single country. The advantages of the global airline lie in marketing and the ability to survive setbacks in particular markets

However, there are still many barriers to contestability remaining in European aviation. The most serious of these are the control of airport slots at Europe's major airports and the use of geographical price discrimination against new market entrants. Barriers to new entrants in European aviation should be a focus for EC competition policy. New market entry is important because Europe's national airlines have traditionally not been willing to compete with other national airlines.

Europe's charter airlines have achieved major cost savings over scheduled airlines but appear likely to concentrate on their traditional inclusive tour market. Eastern European

airlines have major potential labor cost savings over those in Western Europe. A full free trade area in aviation throughout Europe offers Eastern Europe airlines important market opportunities in the short and medium term until their costs approach those in Western Europe. A free trade area in aviation between all of Europe and the North American Free Trade Area of the USA, Canada and Mexico would achieve the long-sought goal of European airlines operating within North America. It would also protect consumers from a fortress Europe policy. In a global free trade market in aviation, the market leaders are likely to be the Asia-Pacific airlines, which at present have significant cost and standard of service advantages over European airlines. There will be strong market pressures on the airlines in a Unified Europe to meet the service and price standards of the Asia-Pacific region airlines.

In facing competitive pressures, European airlines will not be able to rely on government intervention to the degree enjoyed in the past. The most profitable large European airlines, such as British Airways, are likely to become global airlines. Smaller national airline, accustomed to protection and state subsidy, are likely to be absorbed by larger airlines in a liberalized market. Independent airlines will seek market niches where they can survive in the presence of large multinational airlines. In an aviation world of liberalization, privatization, and globalization, many of the instruments and targets of market regulators will be subject to changes even more revolutionary than those facing the airlines.

So has the EU's air transport policy been a success? Certainly it has been slow to evolve and problems still remain. Unlike countries such as the US where the focus is almost entirely on letting the user have a very large say in the types of services that are offered, there remains both a high degree of paternalism and a strong element of support for particular suppliers in the EU. This is not something peculiar to aviation but is important in the way that it is treated

What also emerges is that EU aviation policy is still far from being complete. For example, the matter of responsibility for external relations is still to be settled, the air traffic control system still needs to be harmonized and up-graded, and the application of competition

policy still needs to be clarified. The inadequate economic mechanisms for allocating scarce infrastructure capacity remain a serious impediment to more effective interoperability in the EU. Progress has been made on a scale that few would have expected two decades ago, but still the EU does not have the same degree of liberalization of its internal air transport market that is to be found within the US.

Today, demand for air transportation is increasing, and EU has crucial potential to become world's leading aviation geography. At this stage, it is time to cope with all the changes and needs in the international air transport sector it is time to turn government regulations around to assist international air carriers in being able to compete freely in the international air transport market in a way that reduces conflicts over applications of domestic competition laws to international economic activities and avoids trade barriers.

However, the decisive variable that determines the future leader of world air market will be focused on external relations. So in addition to other regulation requirements analyzed throughout this study, the main consideration point of EU should be developed around external relations taking the importance of international air transport sector into consideration. In the following part, some recommendations and strategies for EU's future external relations is developed as a concluding view of the author.

External Relations

Transatlantic market which is in the most developed countries is very important market for air transportation. But as mentioned before, it is needed to say here that especially in Asia; new markets are getting bigger in the world. Going into these markets is determined to relations with these countries. Previously, taking into consideration amount of the transatlantic market, just relations between U.S. and E.U. are important; but today the relations with other countries have become very important. As a result, arrangement among the countries that provides transportation rights is open sky and bilateral agreements.

As mentioned in Chapter 2.2, IATA forecasts international air travel to grow by an average 6.6% a year to the end of the decade and over 5% a year from 2000 to 2010. Airlines'

profitability and total passenger trips are closely tied to economic growth and trade. Accordingly in the past years Europe and USA became the major markets for airline business. However, as illustrated in Figure 4.2, with growing GDP in the next 20 years, China will become one of the major players as well as Russia and CIS. As analyzed in details in Chapter 2.3.2.3, in Europe and North America, where the air travel market is already highly developed, slower growth of 4%-6% is expected in the next 10 years. The most dynamic growth is centered on the Asia/Pacific region, where fast-growing trade and investment are coupled with rising domestic prosperity. In terms of total passenger trips, however, the main air travel markets of the future will continue to be in and between Europe, North America and Asia.

As discussed in details in Chapter 1, the European Commission wishes to create a common airspace with neighboring countries by 2010. By creating a single aviation market, the European Union has opened up new opportunities for airlines and passengers. Common markets have yet to be created between the European Union and third countries. Two major objectives of the European Commission:[479]

- Its ambition is to create a common airspace with the EU's neighbouring countries in the Mediterranean and along its eastern borders. This airspace should have common security and safety rules and should create new economic opportunities throughout the region. This would also be a sectoral contribution to the European Union's neighborhood policy. The Commission is currently negotiating air agreements with Morocco and the countries of the Western Balkans.

- The Commission plans shortly to initiate negotiations aimed at global agreements in major world regions. It intends to open up world markets gradually and in fair conditions. This strategy is clearly in the interests of Europe's economy and air carriers and passengers in Europe

[479] A Community Aviation Policy Towards Its Neighbours, 2004, European Commission.

In this chapter, the relation of Europe with this high potential markets is analyzed and tried to derive a conclusion for the future structure of the global market. Namely, relations with 3 countries are taken into account, USA, China and Russia. These 3 countries are believed to become the major players in today's and future's airline business and also in Open Sky Agreement agenda of European Commission as mentioned in Chapter 1.

European Union and USA

As mentioned before, the most developed countries according to their state of both aviation and GDP are on the both shores of Atlantic. In this state, it became unquestionable that transatlantic market is the most significant market for air transportation. Although this market is nearly fully utilized, it keeps its importance in the world. Hence, when EU will take an important role in the world market in the future, it is required to look into their relation with US.

Two major trends in air travel industry are proven to be privatization and liberalization as discussed in Chapter 2.3.2.3. In America airlines have always been private, but elsewhere one national flag carrier after another is passing from government ownership into the private sector. In Europe, national carriers such as Germany's Lufthansa, Air France and Spain's Iberia have all been opened up to private capital, following the example of British Airways, which was sold off in 1987. As governments are relieved of the burden of financing the investments of these often loss-making concerns, they become less anxious to protect them with rigid bilateral air-traffic agreements. This has already led to liberalization in Europe (20 years after America), and is progressively opening up other international routes. The combination of privatization and liberalization has created a new force for change.

The number and shape of such alliances will be governed by another force for change, the consolidation of the industry that is now under way in America. The world is likely to end up with three or four big alliance groupings, within a decade, fewer than 10 airline families, groups of airlines linked by a variety of ties from ownership to marketing agreements and franchises, will dominate air transport markets.

After the deregulation process in USA, described in Chapter 1 and 3, in the early 1990s the Americans launched a rolling programme to create open skies with as many countries as would agree to liberalise their traditional bilateral air treaties with the United States. The basic template was to allow any airline in each of the countries to fly between the two countries with minimal restrictions. The Americans also had another purpose in mind: to promote the interests of their own carriers. All the deals were between America, a country that accounts for over a third of the world aviation market, and one with a much smaller share and usually only one international airline. The main bone of contention is the right to pick up traffic in the destination country and either fly it on to another destination within that country (cabotage), or to a third country (fifth freedom).[480]

While US carriers can fly from any airport in the United States to a wide range of airports in the EU, European airlines can only operate to the United States from their own country. Consequently they cannot exploit fully the whole EU market of 360m passengers. In addition; US carriers obtained and in many cases used extensive [fifth freedom] rights between European points which are now essentially domestic sectors within the European Union. Yet European airlines cannot enjoy the equivalent rights to serve city pairs in the United States.

In other words, the mighty United States has picked off European markets one by one while preventing foreigners from owning airlines in America and stopping them from picking up passengers at more than one American city. As discussed in Chapter 1 in details, the European Commission has launched legal proceedings against the eight open-skies deals America has with EU countries, on the ground that they are against EU single-market rules. But foreigners are not only prohibited from owning airlines in America; they are not allowed to operate any services either. British Airways, for instance, may fly international services into 25 American airports, but it cannot pick up extra passengers at to fill up emptying seats before going on to Los Angeles. American carriers, on the other hand, are

[480] "Opening Wider", 2001, Economist, Vol.358, Issue 8212.

free to do this within the European Union. America's restrictions go back to the Jones act of 1920, which limited coastal shipping to vessels built, owned and crewed by Americans.

In November 2002, the European Court of Justice ruled that the eight member countries concerned had violated EU law since they infringed on the power of the EU to regulate and negotiate air transport accords with non-EU nations. The Court confirmed the powers of the Commission in areas where EU legislation already existed and where the Commission could in consequence be said to have authority. The European governments have refused to delegate negotiating powers for aviation to the European Commission after the case 2002.

American airports are owned by local authorities, which are more interested in maximising short-term revenue than in promoting competition. But the main block to progress is the commercial relationship between the airlines and the local authorities. America's infrastructure has not kept pace with the growth of air travel, and that it will not be able to handle the doubling in traffic expected over the next ten years. Moreover, airlines by blocking expansion that would create more capacity and let in competing airlines, causes a barrier in front of the market . In conclusion, the weaknesses of America's aviation system lie in a protected market, incomplete deregulation and over-reliance on the public sector for the provision of infrastructure.

Another point is that American firms are financially superior to many European ones. These firms are frequently accused of dropping prices and flooding markets with capacity when a low-cost new entrant comes along. Once the newcomer has retreated, capacity drops and fares rise again. As mentioned in Chapter 2, American Airlines claims this was just normal competitive behavior. The reason why so many start-up airlines fail is that they lack sufficient finance to stay the course. It is believed by the author that only some of the European Airlines have the power to compete with these American firms such as British Airways. The weaker ones, especially in 10 new member states of European Union, could not survive in this fierce competition. As discussed in Chapter 3, the airlines in accession countries like LOT Polish or CSA Czech Airlines have great chance to grow inside the European Union. However, if they try to compete with huge American firms in case of a

bilateral agreement, they do not have much chance to survive. So they should first be rooted in EU and attain an established position in the European market.

In summary, although creating an open air space with the US is still a priority for the airlines in European Union, it is believed by the author that European Union should be against of a possible Open Sky Agreement with USA. The rationale behind the enthusiasm of individual firms is the scale of the trans-Atlantic market. However, only the ones that have sufficient financial power would benefit from this market. Possible alliances between American and European giants will form a monopoly in trans-Atlantic market, which wipes out the small players. The author believes that good relations should be maintained on both sides of the Atlantic, however establishing a free corridor over Atlantic could result as a disappointing experience in the next 20 years.

The main reasons of the author's belief against becoming closer to US, which are mentioned above, can be clustered in four aspects as follows:

- While US carriers can fly from any airport in the United States to a wide range of airports in the EU, European airlines can only operate to the United States from their own country. The party that fully exploits the advantage of cabotage and fifth freedom will be US firms.

- The increase in the GDP of US is expected to decrease in the following 20 years. As taken into consideration the fact that airline's profitability and total passenger trips are closely related to economic growth and trade, US market losses its attractiveness in the future. Although US is still the major trade partner of EU, eastern countries such as China is becoming more important in foreign trade. Moreover, EU has already exploited this market to some point, and each extra point in the market share is more costly now in US market. So, although trans-Atlantic market is expected to be still the biggest in the global arena in the next 20 years, new growing markets such as China would be more profitable taking into consideration low cost of entry, increasing GDP and trade.

- Powerful rivals in US will dominate the market. Possible alliances between powerful US and EU firms such as American and British Airlines will turn the trans-Atlantic market into a monopolistic one, which will wipe out the small players with a growth potential, especially the ones in new EU members.

- Another point is that America's infrastructure has not kept pace with the growth of air travel, and that it will not be able to handle the doubling in traffic expected over the next ten years.

European Union and Russia

One of the basic players of air transportation is Russia in the both aerospace and airline points of view. In the future, the importance of this market will increase more by means of its increasing GDP potential. However, when paying attention to that Europe get most of them tourism incomes from Russians, it is obvious that Russia will take an important place in the development of EU's air transportation.

Starting with 1990 the living standards in Russia were on a decline, thus causing a nearly 60% drop in air travel. In 1990 the monopoly service of Aeroflot, the Soviet Union's state-owned airline, accounted for 22 percent of the total distance passengers traveled, a proportion comparable with the proportion of travel on the airlines of the United States and Canada was broken, numerous local air carrier companies were formed, half of them privatized. The contribution of air service to total travel had dropped to 12.5 percent by 1993, and the number of passengers flying was less than half the 1990 total. The volume of passenger traffic in 1997 after several years of decline has finally stabilized at the level of 1989. At present there are over 300 airlines registered on the territory of Russia and approximately 200 airlines in other CIS countries (15 largest airlines handle over 75% of the market volume).[481]

Air transport is one of the most dynamic transport modes in Russia. Civil aviation is a significant sector in the Russian economy as a whole employing around 223 000 people.

[481] "Russian Air Transportation", 08/08/2005, Aviation Week & Space Technology.

According to the Russian Ministry of Transport, passenger air transport grew by 9.9% in 2003, cargo by 2.7%.

While the Russian air traffic market is developing rapidly, it remains in certain respects relatively immature with strong potential for growth in both passenger and cargo sectors. IATA forecasts indicate that between 2003 and 2007 Russia's civil aviation market will experience annual growth rates of 5.8%, above the more mature markets in Western Europe and the US.

Only four commercial airlines, Aeroflot, Sibir, Pulkovo and UT Air, carry more than one million passengers a year. Aeroflot dominates the international market whilst in the domestic market it faces competition from the others (Sibir is the leading Russian domestic passenger carrier). Aeroflot provides 37.7% of the total seats supplied in the overall Russian-EU market, with Lufthansa the next nearest carrier with 12.6%.[482]

As being key strategic partners and neighbors, aviation and aeronautical sectors of EU and Russia are significantly in close relation. The EU-Russia partnership has been reinforced following the accession to the EU on May 1st 2004 of ten new Member States, eight of which have historically experienced particularly close economic and political ties with Russia as discussed in Chapter 2. The EU is Russia's main trading partner, accounting for over 50% of its overall trade, whilst Russia is the EU's fifth trading partner (behind the US, Switzerland, China and Japan) and accounts for around 5% of the EU's overall trade. Russia is the second most important trading partner of the ten new Member States of the EU.[483]

Russia offers good prospects for growth for airlines, aircraft manufacturers and service providers in Europe. Russian international passenger traffic is largely concentrated on European destinations. Around 75% of all Russian passenger traffic is directed towards European destinations and this is forecast to grow annually at a rate of 5.8% in the years to

[482] Available on site www.oag.com
[483] A Framework for Developing Relations with the Russian Federation in the Field of Air Transport, 2005, Communication from the Commission of the European Communities.

2007. For the EU, the Russian Federation is currently the fourth largest foreign aviation market.

EU-Russia aviation relations have been dominated in the past by the contentious issues of Siberian overflight payments and Russian concerns with respect to EU noise and safety standards. The issue of Siberian overflight is of major importance for European air carriers as it affects services between Europe and the growing and lucrative markets in the Far East, in particular China. These difficulties have jeopardised opportunities for constructive cooperation and progress in such important areas of mutual interest as aviation safety and security.

Today, relations are fragmented, notably with respect to the traffic rights and market opportunities available to Community carriers. Member States acting individually have neither been able to bring bilateral agreements into conformity with Community law nor resolve such crucial issues as Siberian overflight payments, nor achieve significant progress in market access. Different approaches to safety and noise are a constant source for potential misunderstandings in aviation relations.

A comprehensive EU-Russia air transport agreement would aim to bring about the broadening of aviation relations and establish a framework in which both the industry and users can benefit from improved market conditions, a stable and consistent legal environment between the two markets, and mechanisms through which differences can be avoided or effectively resolved. Well-developed aviation links to the European Union and to the main international destinations are essential for the development of the Russian economy and for its trade relations with the EU.

Russian international passenger traffic is largely concentrated on European destinations. In 2002, 4.3 million passengers travelled between Russia and Western Europe and 1 million passengers between Russia and Central and Eastern Europe. Around 75% of all Russian

passenger traffic is directed towards European destinations and is forecast to experience annual growth of 5.8% in the years to 2007.[484]

Air traffic between EU and Russia rose significantly in the last ten years. Weekly frequencies between EU Member States to Russia rose from 279 in 1992 to 465 in 2003, at the same time the number of available seats in EU-Russia air traffic increased from 44 880 seats in 1992 to 65 663 seats in 2003. The growth potential of the Russian market is widely recognized.

Another point about the potential of Russian air transportation for EU is closely related to tourism. Russia is one of the largest high potential tourist markets in the world. The overall number of tourists to the Russian Federation grew by 7.3% in 2002 (Europe average 2.3%). European travel companies have started co-operation and joint-ventures with companies in Russia. Russian tourism is of increasing importance to the EU tourist industry. Russian tourists are among the world's top spenders in international tourism (12 billion US Dollar in 2002).[485]

As mentioned in Chapter 1, the Russian Federation has bilateral air services agreements with 23 of the 25 Member States regulating in particular traffic rights and related issues of bilateral importance (designation of airlines, aviation safety, tariffs, customs etc.). This fragmentation results in greater complexity than needed for the regulatory framework applicable to air services between the EU and Russia.

EU airlines flying over Russian territory have to pay special royalties to their Russian competitor, Aeroflot, which are not related to normal payments for Air Traffic Control services. These payments, which are imposed by Russia in the bilateral agreements with Member States through mandatory commercial agreements between EU airlines and Aeroflot, constitute an unacceptable charge for transit, contradict universal practice. In 2003, these payments were estimated to have cost European airlines a total of approximately €250 million.

[484] Available on site http://www.iata.org
[485] Tourism Highlights, 2003, World Tourism Organization

Russian airlines still operate a significant number of old aircraft, which are noncompliant with international and European environmental (aircraft noise) and safety standards. This remains an obstacle for improving EU-Russia aviation relations. However, by a community approach and by speaking with a single voice as mentioned in Commission's White Paper "European transport policy for 2010: time to decide", aviation relations between EU and Russia can be organized and these minor issues can be handled in an effective way.

The importance of the Russian Federation and EU aviation relations increased with the enlargement of the EU and traffic between the markets of the EU-25 and the Russian Federation grew significantly. Over the past decade or so, the EU has developed a truly single European market for air transport. Consumers are also benefiting from more choice and lower air fares, in particular with the emergence of new low-cost carriers. The EU is also developing common standards for safety, security and air traffic management for the Single Sky. Nevertheless, the full potential of the internal market is unlikely to be achieved until the Community acts as a single coordinated entity in its aviation relations with third countries wherever such co-ordinated efforts can create added value in the interest of the European aviation industry and users. According to the results of a recent study carried out on behalf of the Commission, a fully open market between the EU and Russia could create benefits of up to €680 Million per annum for both sides, derived from job creation in the aviation industry, expenditure by tourists and travellers and from support services to the wider aviation industry.

Another point is that in case of development of closer ties in aviation relations with Russia would also bring new market opportunities, especially in aerospace industry. The aerospace industry in the ex-USSR was long one of the largest producers in the world, it has however, been hard hit by the post-1989 events and is currently struggling and having to downscale massively. Russian government and industry planners are considering various strategies to support the domestic aerospace industry. These include restructuring the industry to improve operational efficiency and attract investment, and developing aircraft leasing schemes. They also seek broader cooperation with foreign firms in order to integrate Russian manufacturers into the global aviation industry. Over the long run, the Russian

market presents significant opportunities for EU aerospace exports and investment. Favorable conditions would be created for those foreign aerospace companies that would be willing to initiate joint ventures and create workplaces in Russia. It is obvious that the mutual cooperation between the two important aerospace centers, EU and Russia, could improve competitiveness of the Russian industry and benefit the EU market.

By 2015 Russia will need up to 6,500 new aircraft and helicopters of all type. In the coming 10-15 years Russia may need about 100 long-range aircraft. To remain competitive and maintain the existing level of international flights, Russian aviation needs to acquire only the modern types of aircraft. All other types of aircraft should be written off irrespective of the technical feasibility to extend their service life. Thus, the approximated value of the required aircraft to be delivered by the year 2015 is amounted to $46 billion. Estimates suggest that airlines will have to replace a third of their ageing fleets (around 95% of existing aircraft were designed between 1960 and 1980) over the next five years.[486] This requirement of Russia would create an important potential for the aerospace industry. As mentioned above, by developing closer relations with Russian aerospace industry, EU aerospace industry can be benefited from this market gap in the near future.

In addition to aircraft sales, potential exists for sales of avionics and jet engines to Russian aircraft manufacturers (more than half of the Russian-made aircraft are expected to be equipped with foreign components to the level of 40-50% in order to remain competitive and maintain the required safety levels), sales of general aviation aircraft, and sales of air traffic control systems and airport equipment.

In summary, all reasons mentioned above mean that EU should develop closer relations with Russia in terms of aviation and aerospace industries in the very near future However; one of the most important points in the relations of these two countries is the Community approach instead of existing national bilateral agreements. So Union should organize the existing relations and adopt a coherent and wide-ranging approach to aviation relations

[486] Kogan, E., 2004, The State of the Russian Aviation Industry and Export Opportunities, Conflict Studies Research Center.

with the Russian Federation. The main reasons why the author believes in the necessity of closer Russia and EU relations can summarized as follows:

- As mentioned in the previous chapter airline's profitability is closely related to economic growth and trade. With significantly growing GDP and close trade relations, Russia constitutes a major potential for EU. Moreover, tourism potential of Russia is another advantage for EU. Russian tourists are among the world's top spenders in international tourism. According to the results of a recent study carried out by European Commission, a fully open market between the EU and Russia could create benefits of up to €680 Million per annum for both sides.

- One of the largest producers in global aerospace arena is Russia. However, due to the crisis in 90's, a major downsize in the industry was occurred. By again gaining a growth trend in the general economy, Russia started restructuring in this industry. Favorable conditions are created for those foreign aerospace companies that would be willing to initiate joint ventures and create workplaces in Russia. The Russian market presents significant opportunities for EU aerospace exports and investment.

- EU can easily overcome the obstacles in front of close aviation relation such as transit charges or noncompliant aircrafts with EU standards by regulations through Commission's one voice approach. Moreover, noncompliant aircrafts forms another opportunity, by creating a requirement of renewal of most of the fleet, adding up to an opportunity of $46 billion.

European Union and China

It is expected that China will become one of the most advantageous markets in the future because of its increasing GDP per capita, crowded population, and rapidly developing air transportation sector. In addition to this, very dense trade relation between China and E.U. affects the potential of air transportation directly. Thus, one of the most important factors affects the state of the E.U. in the future is the relationships with China.

The People's Republic of China, the world's most populous nation, has emerged over the past 15 years as a key player in world affairs, reflecting its extraordinary growth and economic development. China is becoming an increasingly important partner for the European Union, and vice versa, both economically and politically. China is making continued progress in the reform of its economy. China's accession in December 2001 to the World Trade Organization was significant and will pave the way for further market opening and foreign direct investment. In 2003, China became the EU's second largest trading partner after the US and the EU became China's second largest export market. Following EU enlargement in 2004, the EU is now China's largest trading partner.

From 1978, economic issues between EU and China became inevitably large, traded goods has increased more than 30-fold, reaching a level of €146 billion in 2003. Moreover, the large trade surplus that the EU enjoyed with China throughout the 1980s has now transformed into a large trade deficit (around €64 billion in 2003, the biggest bilateral trade deficit between the EU and any country). In the financial area foreign direct investment by EU companies in China represents approximately seven percent of the total foreign direct investment in China. Although the United States, Japan, Hong Kong and Taiwan all have significantly higher levels of investment in China than the EU, the stock of EU direct investment was nevertheless valued at $34 billion at the end of 2002.[487]

In recent years, the Chinese economy has performed spectacularly well with economic growth rates above 7% in 14 consecutive years. By its sheer size and its nearly 1.3 billion population (22% of World population), extraordinary economic growth rates and immense potential in general, China's economic weight and political status in the world today is very different from what it was as recently as in the 1990s. A broad political dialogue between China and the EU was formally established in 1994.

As seen in Figure 4.2, average annual GDP growth rate for China is expected to be around 7% for the next 20 years, which is the highest in the world. Since it is generally recognised that the demand for air transport is closely linked with the development of GDP, expected

[487] Available on site: http://www.china.org.cn/english/BAT/78092.htm

average RPK annual growth rate is also high as also seen in Figure 4.2. Against this background, and in view of the improved spending basis of the growing urban middle class representing an important potential for tourist travelling, continuously growing demand for air transport in China is expected.

Moreover, as mentioned in Chapter 4.2, airlines' profitability and total passenger trips are also related to trade as well as GDP. EU-China trade is growing faster than China's trade with its other two main trading partners (Japan and the US). Total trade for 2003 between China and the EU was estimated to be worth a total of €135 billion, up more than 15% on 2002. Following EU enlargement in 2004, the EU is now China's largest trading partner.[488]

Enhancing China-EU relations is an important component of China's foreign policy. In its first-ever EU Policy Paper, the Chinese Government outlined in October 2003 its priority areas and plans for strengthening the China-EU political, economic and trade relations. Improving market access and investment conditions in China is a key objective for the EU. In particular, further reform and liberalisation will help China attract foreign investment and technological know-how, and to sustain economic growth. This is true for any sector of the economy but for civil aviation in particular. 19 out of the 25 EU Member States have bilateral air services agreements with China Following the judgements of the European Court of Justice on 5 November 2002, existing bilateral air services agreements based on national designation urgently need to be revised as mentioned in details in Chapter 1.

China's civil aviation sector is undergoing considerable change these years. The transformation of the Chinese civil aviation sector appears to be a gradual move away from central planning towards a combination of decentralization and globalization. Briefly, these changes can be listed as:[489]

- Consolidation of the airline industry into three main airline groups
- Emerging liberalization and market opening both internally and externally

[488] Zhang, A., 1997, Industrial Reform and Air Transport Development in China, University of Victoria.
[489] "Chinese Airlines Playing Catch up to Competition", 26/02/2006, Aviation International News.

- Development of new airport infrastructure and air traffic management technology

The Chinese air traffic market is among the fastest growing in the world. The average annual growth rate of air travelers in China has been approximately 16% between 1958 and 2002 and high growth rates are expected to prevail until 2020. The International Air Transport Association, IATA, forecasts an average annual growth of 8.6% in passenger traffic in China over the period 2003-2007. This is nearly three times the world average growth rate forecast by IATA. The Civil Aviation Administration of China, CAAC, expects even higher growth rates for air traffic with an expected average annual increase until 2020 of 15%. China is therefore expected over the next 10 years to become the largest Asian market and leading hub for air passenger traffic as well as for international cargo traffic thereby taking over Japan's current leading position. China's total passenger traffic is expected to increase from approximately 100 million passengers in 2004 to 215 million passengers in 2014 thereby increasing its total share of Asian-Pacific air passenger traffic to 25% up from 10% in 1985. In addition to this significant growth potential, the 2004 agreement between China and the EU under which Europe will enjoy an Approved Destination Status is expected to attract large numbers of Chinese tourists to the continent as mentioned in Chapter 1. China therefore offers a strong potential for growth also for airlines, aircraft manufacturers and service providers in Europe. Since 1990, the number of seats available on scheduled non-stop flights between the EU and China has increased from 250,000 to nearly 3 million in 2003 (+1150%). The growth in available seats on scheduled non-stop flights to Japan, which is still the EU's largest air traffic market in Asia, only grew by 378% over the same period. Until as recently as 10 years ago, Beijing was the only destination for European flights to China. Since then and until 2003, all flights to China have been to Beijing and Shanghai with Shanghai experiencing an extremely rapid growth now receiving more than 35% of all air passenger traffic from Europe. New routes are now being opened to a number of other Chinese cities.[490]

[490] Joint Declaration on EU-China Co-operation in Civil Aviation, Signed at the occasion of the EU-China Aviation Summit, 1/07/2005, Beijing.

As mentioned in Chapter 2, China's aircraft industry is still in its early stages. After China's accession to the WTO and the subsequent lowering of tariff barriers European suppliers anticipate significant increases in civil aircraft sales in China. The CAAC forecasts that Chinese airlines will need to add nearly 1800 new passenger aircraft to their fleets over the next two decades. This offers the European aerospace industry significant business opportunities, particularly in the important market segment of large civil aircraft. The Chinese together with the Singapore aerospace industry entered an important agreement earlier this year to jointly produce a 100-seater aircraft with Airbus and Alenia. China will also require new air traffic management technology to manage the steadily increasing air traffic. It is expected that China will need to invest more than 1.1 billion USD over the next decade in improving its air traffic management (ATM) infrastructure.[491] Virtually all of this equipment will need to be imported and European industry is well placed to provide this technology. In addition, China will need to modernize a wide range of support facilities and services such as ground handling, refuelling etc. China should make efforts to remove obstacles to market entry in these sectors including in relation to fuel supply and computer reservation systems, where current practices are discriminatory against foreign suppliers.

As well as aerospace industry, military industry also constitutes a great potential for EU despite the arms embargo. Following the use of the People's Liberation Army by the Chinese government to suppress demonstrations in Beijing on 4 June 1989 several European Union (EU) Member States took national decisions not to export arms to China. At the European Council meeting in Brussels in December 2003, the Heads of State and Government of EU Member States invited their foreign ministers to re examine the need for the arms embargo and the arguments for and against its removal. At the end of 2003 China released its first Policy Paper on the European Union, which included a short section outlining Chinese objectives in the military field. In that document China expressed an

[491] Aerospace Industry in China, 2005, International Market Research Reports.

interest in developing high-level military-to-military exchanges with the EU leading in time to a strategic security consultation mechanism.[492]

In the space field, China is pursuing a policy aimed at becoming one of the world's foremost launch providers and also has strong aspirations in the satellite field. As a part of this policy, China has shown an active interest in Galileo technology and a cooperation agreement was signed with the EU in October 2003. A joint EU-China Galileo Training and Cooperation Centre has been set up in Beijing to foster Galileo awareness raising, training and industrial partnerships between Europe and China. China is to contribute €200 million to the Galileo project.

There is a strong interest and a common commitment to build closer political and economic relations between the EU and China. It is also believed by the author of this piece of work that a fully open aviation area should be constituted. There is no reason why the benefits of opening market access and investment rules in third countries such as China should not be exploited. Indeed, a recent study commissioned by the European Commission has made an indicative assessment of the potential longer-term economic benefits for both sides involved in a fully liberalized EU-China aviation market, which could be in the order of several hundred million € per year. To sum up the reasons why the author believes closer aviation relations with China would provide a great potential for EU, above mentioned points are briefly listed:

- With significantly growing GDP, China constitutes important potential for European aviation. Moreover, China became the EU's second largest trading partner after the US and the EU is now China's largest trading partner. Taking into consideration the relation between aviation and trade, a significant growth in air travel potential is expected. Moreover, China explicitly stated in its first-ever EU Policy Paper that strengthening political, economic and trade relations with EU is one of the priorities of China.

[492] Sipri, A., 2005, Military Relevant EU-China Trade and Technology Transfers: Issues and Problems, Center for Strategic and International Studies.

- It is forecasted that Chinese airlines will need to add nearly 1800 new passenger aircraft to their fleets in the coming years. China will also require new air traffic management technology to manage the steadily increasing air traffic. European industry is well placed to provide these requirements.

- As expressed by Chinese Policy Paper, China is interested in developing high-level military-to-military exchanges with the EU. By the removal of arms embargo, a great potential for European military aviation industry can be utilized. In addition to arms, in space applications, China can be a good partner for EU as seen in the example of Galileo project.

REFERENCES

BOOKS

Blanco L.O., van Houtte B., 1996, "EC Competition Law İn The Transportation Sector", Oxford University Press, p.166

Brueckner J.K.., 2004, " European Airline Mergers, Alliance Consolidation, and Consumer Welfare", Netherlands

Button K., , 2002, "Towards an Efficient European Air Transport System", p. 69

Cheng-Jui Lu A.., 2002, "International Airline Alliances : EC Competition Law / US Antitrus Law and International Air Transport", Brussels, p.13-14

Craig P., Bûrca de G., 1998, "EU LAW", Oxford University Press, New York, p.9

Duchène F., Monnet J. , 1952 , "The First Statesman of Interdependence", Norton, NY City, p. 239,

Gillen D., 2001, "Recent Air Transport Developments in the EU", Canada, p.10

Hall, D. R. , 1993, "İmpacts of Economic And Political Transition On The *Transport* Geography of Central and Eastern Europe, Journal of *Transport* Geography", 1, p. 20-35.

J. Mccormick, The European Union: Politics and Policies, Westview Press, 1996.

K. Button, K. Haynes and R. Stough, Flying into the Future, Edward Elgar Publishing, 1998.

Pinder J., 1995, " The European Community : The Building of a Union (2nd edn.)", p.7

Preston C., 1997, "Enlargement and Integration In the European Union", Routledg , p.20,

R. Doganis, Flying off Course, Third Edition, Taylor & Francis Group, London, 2002.

Stevens H., "Transport Policy İn The European Union", The European Union Series,p.48

Storm S., 1999, "Air Transport Policies and Frequent Flyer Programmes in the European Community -", p.25

Weatherill S., Beaumont P., 1999, "EU LAW", Penguin Books, Harmondsworth, Middlesex, England,p.22

Weiler J, 1991, "The Transformation of Europe", Ch 3. Art 235.

Williams, A., 1994, "The *European* Community" (2nd edn). Oxford, Blackwell Publishing, p.8

ARTICLES

2005-20024 Market Outlook, 2005, Embraer Report.

A Community Aviation Policy Towards Its Neighbours, 2004, European Commission.

A Community Civil Aviation Policy Towards the People's Republic of China – Strengthening co-operation and opening markets, 2005, Communication from the Commission of the European Communities.

A Framework for Developing Relations with the Russian Federation in the Field of Air Transport, 2005, Communication from the Commission of the European Communities.

A Vision for European Air Transport, 2004, European Regions Airline Association Report.

A. Meade,"Modeling a European Competition Authority", Duke Law Journal, Vol. 46, No. 1, 1996, p.153-195.

Action Plan 2004-2009, 2005, Association of European Airlines Report.

Aerospace & Defence: Commercial and Defence Cycles Align for Growth, 2005, Bernstein Research.

Aerospace Industry in China, 2005, International Market Research Reports.

Aerospace within the European Research Area – Accesion Countries, 2001, European Association of Aerospace Industries.

Air Cargo World, "Trucks", Vol. 95, Issue 6, 2005.

Airport Council International Report, Concerns over Future of European Transport Policy, 2002.

Airports Council International Report, The Social and Economic Impact of Airports in Europe, 2004.

Allen, J., 2005, Aeronautics-1903, Aerospace-2003;?? 2103.

Archick, C., 2005, The European Union in 2005 and Beyond, Congressional Research Service Report for Congress.

Association of European Airlines, Annual Traffic Monitor 2003, 2004.

Association of European Airlines, Consumer Report 2003, 2005.

Association of European Airlines, Monthly Traffic Monitor, 2003.

Association of European Airlines, Summary of Traffic and Airline Results 2003, 2004.

Association of European Airlines, Yearbook 2005, 2005.

B. Barnard, "EU Enlarges", Europe, Issue 335, 1994.

B. Bayliss and A. Millington,"Transnational Joint Ventures between UK and EU Manufacturing Companies and the Structure of Competition", Journal of International Business Studies, Vol.26, No.2, 1995, p239-254.

B. Curtis and E. Sieberson, Bridge to the Future: Enlarging the European Union, 2005.

Bangeman, M., 1998, "Europe's Way Forward in Aerospace and Defence, Interavia Business & Technology", Vol. 53, Issue 620.

Benson, J. and Powell, M., 2004, "Opening Up Europe", Airfinance Journal, Issue 267.

Business Consequences of EU Enlargement, 2003, McKinsey&Company European Business SummitReport.

Business West Report, European Union Enlargement May 2004, 2004.

Busquin, P., 2001, "Fast Forward for European Aerospace R&D", Interavia Business & Technology, Vol. 56, Issue 655.

C. Allen,"The Competition Effects of the Single Market in Europe", Economic Policy, Vol.13, No.27, 1998, p439-486.

C. Bulloch, "ESA's Stopgap, New-Start Budget", Interavia Business & Technology, Vol. 53, Issue 622, 1998.

Catalague of the Czech Defence Industry 2001-2002, Prague, Association of the Defence Industry of the Czech Republic (AOP), pp. 16-27.

CILT World,"Single Sky Deal Agreed for Europe", Vol.32, Issue 8, 2005.

Coles, T. and Hall, D., 2005, "Tourism and European Union Enlargement", International Journal of Tourism Research, No. 7, pp.51-61.

Cook, N., 1996, "Battlespace 2000", Interavia Business & Technology, Vol. 51, Issue 601.

Cook, N., 2000, "Europe Fights to Make up for the Lost Time", Interavia Business & Technology, Vol. 55, Issue 638.

Country Monitor,"Western Europe",Vol.8, Issue 28, 2000.

Country Report European Union, Review, Issue 1, 1997.

Country Report European Union, Review, Issue 3, 1998

Current Market Outlook, 2005, Boeing Market Analysis.

D. Barrie and M. Taverna, "Industrial Fallout", Aviation Week and Space Technology, Vol.158, Issue 18, 2003.

D. Cote, "The European Union", Vital Speeches of the Day, Vol.71, Issue 5, 2004.

D. Good and R. Sickles,"US Airline Deregulation: Implications for European Transport", The Economic Journal, Vol.103, No.419, 1993.

D. O'Reilly,"The Changing Pattern of Air Transport Regulation",Public Money & Management, 1998.

Deviler, D., 2004, Innovation in the Aerospace & Defence Industry – A European Perspective.

DG Tren Final Report, Analysis of the European Air Transport Industry 2001, 2003.

DG Tren Final Report, Analysis of the European Air Transport Industry 2003, 2005.

Dominique Moisi, "Dreaming of Europe", Foreign Policy, No. 115, 1999, p44-59.

E. Günter, 2004,"New Arrivals", Airline Business, Vol.20, Issue 2.

E. Juan,"Aviation: The Politics and Economics of a Boom", Foreign Policy, No.109, 1998, p.141-154.

E. Pels, P. Nijkamp and P. Rietveld,"Inefficiencies and Scale Economies of European Airport Operations",Transportation Research, Part E, Vol. 39, Issue5, 2003.

Energy and Competitiveness Ministery in Europe, EU Enlargement and the Single Market: Opportunities for Business,2001.

Enlargement of the European Union, 2003, Export America.

ERA Airline Annual Statistics, Statistics, European Regions Airlines Association Publications, 2004.

ERA Airport Annual Statistics 2003, Statistics, European Regions Airlines Association Publications, 2005.

ERA Annual Results 1991-2003, Performance, European Regions Airlines Association Publications, 2005.

ERA Annual Results 2003, Performance, European Regions Airlines Association

ESA's Annual Analysis 2003, The European Space Sector in a Global Context, 2004.

EU Enlargement, 2003, Airports Council International Airport Business.

EU Enlargement: Economic Implications for Countries and Industries, 2001, Centraal Planbureau.

Eurobarometer, 2001, European Commision.

"Europe's National Sapce Agencies Contra ESA", 1999, Interavia Business & Technology, Vol. 54, Issue 635.

European Air Transport Policies: Crucial Choices at a Critical Time, 2003, Parliamentary Assembly Report.

European Commision Directorate General for Energy and Transport Report, Enlargement and European Union Transport Policy, 2003.

European Commision Report, STAR21: Strategic Aerospace Review for 21st Century, 2002.

European Commision White Paper, Space: a New European Frontier for an Expanding Union, 2003.

European Economic Summit, 2004, Executive Summary, World Economic Forum, Warsaw.

European Policy Paper, Transatlantic Air Transport, 1999.

European Union, 2003, The Economist Intelligence Unit's Country Reports.

F. Captain and R. Sickles,"Competition and Market Power in the European Airline Industry: 1976-90", Managerial and Decision Economics, Vol.18, No.3, 1997.

Fagerberg, J., 1999, "The Need for Innovation-Based Growth in Europe", Challenge, Vol. 42, Issue 5.

Flottau, J. and Taverna, M., 2004, "Partners Wanted", Aviation Week & Space Technology, Vol. 160, Issue 21.

Focus, The Kinnock Lecture 2003, 2003.

Fontanel, J. and Smith, R., 1991, "A European Defence Union?", Economic Policy, 10/1991.

Fucik, J.,"Comments on the Consolidation of the Czech Armament Industries and Their Ability to Participate in Trans-National Programmes", in NATO Co-operation, p.47.

G. Titley, Enlarging the EU: The Making or Breaking of the Union?, 2003.

Gilman, M., and Broughton, A., 2004,"European Industrial Relations in 2003: A Chronicle of Events", Industrial Relations Journal.

Global Aerospace and Defence, 2005, Datamonitor Report.

Global Aviation Security Group, Industry Positions on Security Issues, 2004.

Global Market Forecast 2004-2023, 2004, Airbus Report.

Guyot, M. and Vranceanu, R.,2001, "European Defence: The Cost of Partial Integration", Defence and Peace Economics, Vol. 12.

Guyot, M. and Vranceanu, R.,2001, "European Defence: The Cost of Partial Integration", Defence and Peace Economics, Vol. 12.

Hartley, K. and Sandler, T., 2003, "The Future of the Defence Firm", Kyklos, Vol. 56, pp. 361-380.

Heirtley, K., 2002, "The Future of European Defence Policy: An Economic Perspective", Defence and Peace Economics, Vol. 14, pp. 107-115.

ICF Consulting Report, Overview of Europe's Aviation Industry: Structure and Competition, 2003.

Industry Forecast: Air raid, 2003, The Economic Intelligence Unit Business Eastern Europe.

Internal Market and Sectoral Issues, 2002, The Economist Intelligence Unit European Policy Analyst.

Internal Market and Sectoral Issues, 2004, European Policy Analyst, The Economist Intelligence Unit.

Ivy, R., 2003, "Planning Strategies in Europe's Single Air Market", European Planning Studies, Vol.5, Issue 1.

J. Fontanel and R. Smith, "A European Defence Union", Economic Policy, Vol.6, No.13, p393-424.

J. Scherpenberg,"Transatlantic Competitionand European Defence Industries: A New Look at the Trade-Defence Linkage", International Affairs, Vol.73, No.1, 1997, p.99-122.

Jiulin, C., 2004, "Joining Hands to Build Excellence Together", Speech at EU-China Business Forum, 06/05/2004, Brussels.

Joint Declaration on EU-China Co-operation in Civil Aviation, Signed at the occasion of the EU-China Aviation Summit, 1/07/2005, Beijing.

Joint Statement of the 7th EU-China Summit, 8/12/2004, Netherlands.

Journal of the Institute of Logistics and Transport,"Social and Economic Importance of Europe's Airports in Larger EU", No. 126, 2004.

K. Button, "Lessons from the European Transport Experience", Annals of the American Academy of Political and Social Science, Vol. 553, 1997, p157-167.

K. Button, Interactions of Global Competition, Airline Strategic Alliances andAir Traffic Safety, 1997.

K. Button, Towards an Efficient European Air Transport System, 2002, A Study for the Association of European Airlines.

K. Button,"Deregulation and Liberalization of European Air Transport Markets", Innovation, Vol. 14, No.3, 2001.

K. Neumeister,"The Impact of 11 September on the Air Transport Industry", AEA Report, 2001.

K. Zbidi,"The Impact of Total Libaralization of Domestic Air Transport Transport on the Social Welfare and on the Dynamic Competition: Comparison Between United States and the European Union",2003.

Kogan, E., 2004, The State of the Russian Aviation Industry and Export Opportunities, Conflict Studies Research Center.

Kogan, E., 2005, EU Enlargement and Its Consequences for Europe's Defence Industries and Markets, Paper 40, Bonn.

Krause, A., 2002, "EADS Targets US Market", Issue 421.

L. Linkevicius, 2003,"Life After Enlargement", Baltic Defense Review, No.9, Vol. 1.

Lungu, S., 2005, European Defense Market Integration: The Aerospace Sector in 1987-1999.

M. Taverna, "European Clock Reset on Mergers, Takeovers", Aviation Week & Space Technology, Vol. 156, Issue 24, 2002.

Matlock, C., 2006,"Why Airbus Cannot Glide on 2005", Business Week Online.

Mid-Term Review of the European Commission White Paper "European Transport Policy for 2010: Time to Decide", 2004, Submission by European Regions Airline Association Report.

Müller-Jentsch, D., 2004, Transport Sector Reform and Deeper Economic Integration in the Euro-Mediterranean Region, Working Paper 0308.

N. Adler and N. Hashai,"Effect of Open Skies in the Middle East Region", Transportation Research, Part A, Vol. 39, Issue 10, 2005.

N. Beauclair and J. Dupon,"Partners and Competitors", Interavia Business & Technology, Vol.55, Issue 648, 2000.

N. Beauclair,"Europe's Equipment Suppliers Looking Good", Interavia Business & Technology, Vol.55, Issue 638, 2000.

N. Fligstein and I. Mara-Drita,"How to Make a Market: Reflections on the Attempt to Create a Single Market in the European Union",The American Journal of Sociology, Vol.102, No.1, 1996.

N.Beauclair,"Helping Industry to Compete", Interavia Business & Technology, Vol.53, Issue 625, 1998.

Nikoulichev, M., 1998, Russian Aviation Industry, US Embassy, Moscow.

Ostros, T., 2001, "Challenges for the Aeronautical Industry", Interavia Business & Technology, Vol. 56, Issue 652.

Overview of Europe's Aviation Industry: Structure and Competition, 2003, ICF Consulting Report.

P. Condom, "The Other Half of The Model", Interavia Business & Technology, Vol.54, Issue 528, 1999

P. Condom,"Swedish Industry Comes in from the Cold",Interavia Business & Technology, Vol. 51, Issue 600, 1996.

P. Nicolaides and A. Geveke, Improving Policy Implementation in an Enlarged European Union, 2002.

P. Sparaco, 2004, "Transform ASAP", Aviation Week & Space Technology, Vol. 160, Issue 18.

Palacio, L., 2003 The Future of Air Transport in an enlarged Europe, Speech at the AECMA Convention, Edinburgh.

Parliamentary Assembly Report,"European Air Transport Policies: The Need for a Truly 'One Sky Europe", 2000.

Philippe, C.,"Toward a Common Defence", Vital Speeches of the Day, Vol. 69, Issue 2.

Piazolo, D., 2001, The Integration Process Between Eastern and Western Europe, Kiel Institute of World Economics Studies Series 310.

Position Paper on Airport Capacity Required, 2004, Airports Council International.

R. Turney, "Cargo East", Air Cargo World, Vol. 94, Issue 10, 2004.

R. Turney, 2005, "Polling Europe", Air Cargo World, Vol. 95, Issue 4.

Russia Quarterly Forecast Report, Chapter 3: Key Economic Sectors, 2004 3rd Quarter, 2004.

S. Trimble, "Foreign Corruption Charged", Business & Commercial Aviation, Vol.89, Issue 3, 2001.

Sandler, T. and Hartley, K., 2001, "Economic Lessons for Collective Action", Journal of Economic Literature, Vol. 39, No. 3, p.869-896.

Schmidt, P., 2004, EU Enlargement and Armaments, Occasional Paper.

Sipri, A., 2005, Military Relevant EU-China Trade and Technology Transfers: Issues and Problems, Center for Strategic and International Studies.

Smith, J. and Flournoy, M., 2005, European Defense Integration: Bridging the Gap between Strategy and Capabilities, Center for Strategic and International Studies.

Space: a New European Frontier for an Expanding Union, 2003, European Commision White Paper.

Sparaco, P., 2004, "Europe Revamps", Aviation Week & Space Technology, Vol. 161, Issue 8.

STAR21: Strategic Aerospace Review for 21st Century, 2002, European Commision Report.

Tagarev, T., 2004, From Downsizing to Modernising Defence in Central and Eastern Europe: Opportunities for SME's, NATO Science Series, Series V, Vol. 43.

Taverna, M., 2004, "East Meets West", Aviation Week & Space Technology, Vol.160, Issue 19.

The Economic Intelligence Unit Business Eastern Europe, What's New in Your Industry", 2005.

The Economic Intelligence Unit Business Europe, Rethinking Industrial Policy, 2003.

The Economist Intelligence Unit European Policy Analyst, Competition Policy, 2003.

The Economist Intelligence Unit Regional Monitor, External Relations, 2003.

The Economist Intelligence Unit's Country Reports, European Union, 2005.

The European Commission's White Paper European Transport Policy for 2010: Decision Time!, 2004, Association of European Airlines Report.

The European Space Sector in a Global Context, 2004, ESA's Annual Analysis 2003.

The Future of Europe's Aerospace Industry, 2003, European Metalworkers' Federation.

The Future of the European Defence Aeronatutics Industry – Reply to the Annual Report of the Council, 2003, Assembly of Western European Union.

The Future of the European Defence Industry, 2003, EMF Conference, Syndex Report.

The Impact of EU Enlargement, Stage 3 – Strategic Implications, 2003, DTZ Research.

Transatlantic Aviation Forum, The Future of EU-US Aviation Relations: Issues and Implications, M. Staniland, 2000.

V. Golich,"From Competition to Collaboration: The Challenge of Commercial-Class Aircraft Manufacturing", International Organization, Vol.46, No.4, 1992.

V. Schmidt,"Industrial Policy and Policies of Industry in Advanced Industrialized Nations",Comparative Politics, Vol. 28, No.2, 1996.

W. Owen,"Transportation Economic Development", American economic Association, 2001.

Wall, J., 2004, "Viewpoint", Aviation Week & Space Technology, Vol. 160, Issue 5.

White Paper European Transport Policy for 2010: Time to Decide, 2001, Commission of the European Communities.

www.dfa.ie, Report on Developments in the European Union in 2004, 2005.

Zhang, A., 1997, Industrial Reform and Air Transport Development in China, University of Victoria.

NEWS

"A New Europe", 27/04/04, Flight International.

"Air Wars", 1999, World Link.

"American Monsters, European Minnows", 1196, Economist, Vol. 338, Issue 7948.

Aviation Week & Space Technology,"World News Roundup", Vol.155, Issue 4,2001.

BIA News Center, EU Adopts Enlargement Strategy, 9/11/05, 2005.

"Chinese Airlines Playing Catch up to Competition", 26/02/2006, Aviation International News.

D. Carney and W. Echikson,"Europe: A Different Take on Antitrust", Business Week, Issue 3738, 2001.

"EU Debutants Decide To Ditch Frills", 27/04/04, Flight International.

"EU Enlargement Could Add to Costs", 01/10/2003, Airline Business.

"EU Seeks Open Skies Deals with Russia, China and Other Regions", 20/03/2006, Finfacts Business News Centre.

"EU with 2020 Vision", March 2001, Tooling and Production.

"Europe or the World", 2000, Economist, Vol. 355, Issue 8165.

"Europe's EADS to Rival US Contractors", 2000, Corporate Legal Times, Vol. 10, Issue 98.

Economist, "Flight of Fancy", Vol.358, Issue 8212, 2001.

Economist, "Sky is the Limit", Vol. 358, Issue 635, 2001.

Economist, "The Joys of Oligopoly", Vol.358, Issue 8212,p13.

Economist,"Free as a Bird", Vol.358, Issue 8212, 2001.

Economist,"Huddling Together", Vol.358, Issue 8212, 2001.

Economist,"Let Fly",Vol.358,Issue 8212, 2001.

Economist,"Opening Wider", Vol.358, Issue 8212, 2001.

Economist,"Webbed Wings", Vol. 358, Issue 8212, 2001.

"How Much Does Russia Cost?", 09/04/2004, MosNews.

Interavia Business & Technology, "Business Briefing",Vol.54, Issue 633, 2002.

Interavia Business & Technology. "The Case for Aerospace", Vol. 54, Issue 635, 1999, p2.

Jane's Defence Weekly, 25/02/2004, p.15.

"Merger Creates Largest European Aircraft Maker", 2000, Machine Design, Vol. 72, Issue 9.

Martial, T., "EC Presses for Multilateral Air Talks with China, Russia", 15/03/2005, Aviation Daily.

"Russian Air Transportation", 08/08/2005, Aviation Week & Space Technology.

"The New European", 01/03/00, Airline Business.

INTERNET

http:// europa.eu.int/scadplus/treaties/nice_en.htm

http://en.wikipedia.org/wiki/Treaty_Nice

http://europa.eu.int/comm/avservices/photo/index_en.cfm

http://www.aea.be/AEAWebsite/Presentation_Tier/Pr_GroupMenuItem.aspx?NodeID=rootMenu4(

http://www.airguideonline.com

http://www.alv-cr.cz

http://www.aviation.ru/bisnis/bisnis.html.

http://www.corbis.com/europe

http://www.dcs.gla.ac.uk

http://www.dft.gov.uk/aviation/whitepaper

www.iolt.org.uk

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