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# AIR TRANSPORTION POLICY OF EUROPEAN UNION AND TURKEY

Yüksek Lisans Tezi

DOĞAN AHMET İZER

İstanbul, 2002

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## Foreword

Air Transportation is a fact of life for the second half of 20th century. At the turn of 20th century, this term did not exist. The invention of motorized flight and its development in leaps and bounces in the first half of 20th century established air transportation as viable mode of transportation. Technical, commercial and social developments put it as a fact of life. Once, air transportation was seen as transportation means of rich and famous. At the beginning of the 21st century, air transportation is counted a social service, which should be maintained and supported by the state.

Air Transportation, as means of transportation, was introduced to Turkey in 1930's, but it did not start to grow in importance until 1970's and boomed throughout 1980's and 1990's. Today just domestically in Turkey, more than 6 million passengers per year are carried every year while major cities of Turkey are connected with several flights a day. Growth potential of Turkey's Air Transportation market is considered unlimited given its population and distances between its major cities and from one end of the country and to the other end. Air transportation will become evermore-integral part of our lives. So its future and direction at this stage of its development should be a concern for all.

For the future of air transportation in Turkey, one has to only look to European Union (EU). During the 1990's, EU has integrated air transportation into the Single Market and created European Civil Aviation Area. A market, which covers 3 million-km2 area and around 300 million people, is

the second largest air transportation market after U.S. Importance of this development is twofold for Turkey. Turkey is officially on its way to full membership in EU, which will make it part of European Civil Aviation Area (ECAA). Secondly for the near future, ECAA will represent the largest air transportation market for Turkey; therefore a difficult fact to ignore. Turkey's close commercial, ethnical and commercial links, to EU and air transportation's importance in maintaining these links puts ECAA as the next big question for the future of Turkish civil aviation sector.

My Thesis aims to evaluate ECAA and liberalization in general in the civil aviation sector for last 20 years and compare with the liberalization process in Turkey. Also, as part of my thesis, I will evaluate the competition in air transportation in Turkey both for domestic and international traffic and try to assess the competitiveness of Turkish air transportation sector if it were to join ECAA today or near future.

## ABSTRACT

Air transportation in Turkey as sector has grown considerable in the last 20 years. This growth is linked with the liberalization of the sector in 1983. In European Union under the auspices of single market, a similar liberalization movement started in late 1980's, which ended up with the creation of European Common Aviation Area. Both markets showed considerable growth and air transportation is now the main mode of transportation between Turkey and European Union. I have aimed to compare the aviation sectors of both Turkey and European Union including the overall transportation policies, in order to evaluate the competitiveness Turkish civil aviation sector after a possible integration of European Common Aviation area. In this research, I have interviewed European Union officials, civil aviation sector's executives and researched European Union and Turkish government documents. I have reviewed literature on air transportation economics and marketing. Turkish aviation sector is competitive in international markets but displays monopolistic character in domestic and some international markets. European Common Aviation Area is much more competitive and spots, where monopolistic situation do exist, are limited. Overall aviation policy of European Union is coherent but there are major gaps. In Turkey, such policy does not exist including a master transportation policy. Also access to capital markets poses a barrier for Turkish aviation sector. Overall, Turkish air transportation

sector could be in a competitive position in or against European Common Aviation Area, provided that a master transportation policy is created and the issues relating to capital is resolved.

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## DEFINITIONS

ICOA : International Civil Aviation Organization

IATA : International Air Transport Association

JAA : Joint Aviation Authority

ECAC : European Civil Avaition Conference

AEA : Association of European Airlines

TEN : Trans European Network

DPT : Devlet Planlama Teşkilatı (State Planning Agency)

USD : United States Dolar

OECD : Organization For Economic Co-operation and Development

BATA : Bilateral Air Transportation Agreement

LCC : Low Cost Carriers

CRS : Computerized Reservation Systems

ATK : Available Ton - Kilometers

EU : European Union

CPU : Central Processing Unit

RAM : Random Access Memory

CAB : Civil Aeronautics Board

DOT : Department of Transportation

ASA : Air Services Agreement

EEC : European Economic Community

ECJ : European Court of Justice

CTP : Common Trade Policy

CATP : Common Air Transport Policy

MOU : Memorandum of Understanding

CAA : Common Aviation Area

RPK : Revenue Per Kilometer

CIDNA: French - Romanian Aviation Company

DHMİ : Devlet Hava Meydanlar İşletmesi

SHGM : Sivil Havacılık Genel Müdürlüğü

DLH : Demiryolları, Limanlar ve Hava Meydanları İnşaatı Genel Müdürlüğü

ECAA : Europan Common Aviation Area

GNP : Gross National Product

# I. INTRODUCTION

Air transportation is a vital sector of the world economy, together with the telecommunication sector; it is creating the backbone of newly emerging economic structures. The development of air transportation industry reflects the major economic theories and practices of the 20th century. Air transportation from its infancy was shaped with the guiding hand of the state all over the world. In most countries, states created and nurtured their air transportation industry to its present status. States further widened their control of this sector through the creation of international and national air transportation laws such Warsaw and Montreal Conventions. Technology is also one of major forces that shaped air transportation sector. From airplanes that could only fly couple hundred meters to aircraft that could carry passengers, cargo and mail from Chicago to Hong Kong non-stop, technological developments helped air transportation industry to grow on an astonishing speed. These technical developments changed the nature of the industry. The industry started first by delivering mail and carrying those who were adventurous enough to try the new technology. Late 1920's and early 1930's saw the development of commercial airlines and scheduled passenger, cargo and mail service. These airlines and commercial enterprises served limited numbers of passengers and destinations. World War II and late 1940's and 1950's saw great developments in the field of commercial aircraft development. With the introduction of jet engine powered aircraft like BOAC (**B**ritish **O**verseas **A**irways **C**orporation) and Boeing 707, the air transportation industry entered into a new era. This new era differed in that air

transportation moved from the realm of the few into realm of the masses. With the jet technology, it was to move great number of people over a long distance like Europe to North America in a relatively short time. The greatest testament to this new technology came in the shape of Boeing 747[1] - Jumbo Jet- in 1969. Boeing 747 can carry over 500 passengers in all economy configurations from any point in North America to any point in Western Europe. Economic nature of commercial air transportation changed drastically with these developments.

Interest in commercial aviation started before World War I and the interest to regulate it too even before that. First international conference on aviation was held in Paris in 1910. Considering it was just seven years since the first powered flight, it goes to signify the interest states took in aviation. War World I only helped to grow this interest. After War World I, the technological jump in the aviation allowed the production of first commercially viable aircraft. In line with these developments, early 1920's saw first scheduled services beginning and airlines taking off. Naturally, the attempts to regulate this sector restarted where they were left off. States were determined to regulate aviation and to control their air space. Most States disproved High sea laws and liberal nature of shipping industry. In accordance with the dominant ideologies (during 1920 and 1930's these ideologies were communism, fascism and state intervention in the economy) of the time and convention, a country has absolute control over its air space and can decide who will enter and exist its airspace. This period saw the rise of scheduled services whereas charter and

[1] Boeing 747-400 (passenger): Passenger 524 (in 2 class Configuration), Range 13570 km (could fly city pares like Los Angeles – Sydney, Singapore – London), Speed: 910 km/h (at 35000 ft). Retrieved: 2

other non-scheduled services drew very little demand. States gave emphasis on regulating scheduled services in period and the period following World War II. In 1929, Warsaw convention was signed which regulated liability in the performance of a scheduled flight. As World War II was starting, the world just had a glimpse on the potential of aviation sector in shaping the second half of 20th century.

Introduction of jet engine gave shape to current economics and state of commercial air transportation. It allowed airlines to offer service to destinations that they would not be able to serve previously or perform more services to the same destinations than previously possible. Cargo entered also into the income stream of the airlines as a real contributor either carried by dedicated cargo airplanes or under the belly of passenger airplanes. With jet era, different types of commercial airlines emerged operating under different set of commercial rules and economic principles. These airlines can be mainly classified into three different groups: scheduled, charter and all-cargo airlines. Parallel to these developments in commercial air transportation, the international law system that regulates these entities became much more elaborate. Especially after World War II, institutions like ICAO (**I**nternational **C**ivil **A**viation **O**rganization), ECAC (**E**uropean **C**ivil **A**viation **C**onference) and JAA (**J**oint **A**viation **A**uthority) were created to administer this international law system and to keep it in line with the technological changes. Commercial air transportation companies also created organizations of their own like IATA (**I**nternational **A**ir **T**ransportation **A**ssociation), AEA (**A**ssociation of **E**uropean

Airlines) to regulate the industry or defend their interest internationally.

In this thesis, I will try to explain the development of policies and current policies relating transportation and air transportation sector first starting in the European Communities than later with the European Union and its possible effects on Turkey's civil aviation sector if Turkey was to join the European Union. I will start with a short exploration of transportation policy with a specific emphasis on air transportation in EU and Turkey. I will explain the economic workings of airline groups (scheduled passenger & cargo, charter, all-cargo). Evaluation of different liberalization efforts and detailed exploration of European Union and Turkish aviation sector will come next with a comparison of European Communities and Turkey's liberations efforts in this sector. European Communities' three packages on civil aviation will be evaluated with a look at its effects on European aviation sector and the future of civil aviation policy in the European Union. Turkey's liberations since 1983 will be studied similarly and evaluated in the framework of Turkey's integration into European Union. Finally, I will try to appraise whether Turkish aviation sector will be competitive and survive in European Union with a special emphasis on Turkish Airlines.

In thesis, I will try to prove that Turkey's eventually joining to the European Union will not effect Turkey's civil aviation in any negative way due to Turkey's liberal policies on the civil aviation sector since early 1980's. Turkey's liberal policies do conform well to the European Union's civil aviation policies and has prepared the sector for any

kind of competition that European civil aviation industry may pose on Turkish civil aviation sector.

## II. TRANSPORTATION POLICIES OF TURKEY AND EUROPEAN UNION

Transportation in general is a new subject for European Union. Although some aspects were under European Union rules and regulations like land and sea transportation, other like railroads and air transport came only under European Union jurisdiction after the completions of Single Market in early 1990's. First policy paper on Common Transportation policy came out in 1992. This paper tried to set out for the next ten years the priority and goals of European Union in the field of transportation. In line with the Common Transportation policy, European Union created the concept of **T**rans **E**uropean **N**etwork (TEN). TEN aims to create a united transportation network out of the existing national transportation network. And in order to achieve this aim, European Union offers financial aid for the construction of the critical parts in the network. In 2001, second policy paper on transportation came out: "White Paper, European transportation policy for 2010: time to decide". As the title of this White Paper states, European Union is setting out its vision for the European transportation sector in this paper. In line with this vision, European Union created a number of priorities and action areas in the field of transport.

**1.7**

## Comparison EU 15 - World

| | EU 15 | USA | Japan | China | Russia |
|---|---|---|---|---|---|
| **General data** (1999) | | | | | |
| **Population** million | 376 | 273 | 127 | 1 261 | 146 |
| **Population growth** % | 0.3 | 0.9 | 0.2 | 0.9 | 0.5 |
| **Urban population** % of total | 80 | 77 | 79 | 32 | 73 |
| **Area** million km2 | 3.24 | 9.36 | 0.38 | 9.56 | 17.08 |
| **Population density** Persons/km2 | 116 | 29 | 334 | 132 | 9 |
| **GDP** (nominal) € billion | 8 004 | 8 723 | 4 225 | 1 055 | 173 |
| **GDP per capita** (in PPP) EU= 100 | 100 | 138 | 109 | 12 | 30 |
| **Exports** (1) € billion | 936 | 1 019 | 439 | 233 | 71 |
| **Imports** (1) € billion | 1 023 | 1 301 | 368 | 202 | 38 |

**Sources :** Eurostat, World Bank
**Notes** (1): without intra-EU trade
PPP : Purchasing power parities

Figure 2.1. Comparison of EU 15 - World
Source: EU website (retrieved on 31 July 2002)

In its White Paper, European Union focuses on couple of objectives for 2010. In the White Paper, four issues come into forefront as areas for action during next 8 years:

- Shifting transportation demands from road transportation to rail and sea transportation
- Development of intermodal transportation and TEN

- Environment
- Transportation safety

According European Union, European transportation sector relies too heavily on road transportation, which is not most efficient and environment friendly mode of transportation. European Union also wants to break link of economic growth and growth in transportation, especially the growth and the dominance of road transportation. European Union proposes to achieve this goal by several different means. First of all, European Union plans to promote railroad and sea transportation including inland waterways (especially Rhine, Danube Rivers) for freight transport. For passenger transport side, high-speed trains are promoted as the alternative to road and air transportation. On the other, European Union also plans to force this shift through the reflection of all the cost of transportation to the users so that right pricing decision might be taken. European Union thinks existing pricing systems to do not reflect or distort the true costs in all modes of transportation. A transparent pricing system, which includes environmental costs and maintenance, will allow policy makers and public to make more informed decision regarding infrastructure and mode of transportation. Also through the development of intermodal transportation, European Union intends to move passenger and freight traffic from the roads and air transportation to a combination of rail and sea transportation.

**1.6**

## Other European Countries
## Population, G.D.P., Unemployment

| | Population | G.D.P. | G.D.P. (PPP) / capita | Unemp-loyment |
|---|---|---|---|---|
| | 1999 | 1999 | | 1999 |
| | million | € billion | EU=100 | % |
| **Iceland** | 0.277 | 8.1 | 117 | 2.1 |
| **Liechtenstein** | 0.032 | 2.3 | n.a. | 1.1 |
| **Norway** | 4.462 | 143.5 | 125 | 3.2 |
| **Switzerland** | 7.144 | 243.0 | 128 | 2.7 |
| **Bulgaria** | 8.211 | 11.6 | 22 | 14.1 |
| **Cyprus** (1) | 0.666 | 8.5 | 81 | 3.6 |
| **Czech Rep.** | 10.282 | 49.8 | 59 | 8.7 |
| **Estonia** | 1.442 | 4.8 | 36 | 11.7 |
| **Hungary** | 10.068 | 45.4 | 51 | 7.0 |
| **Latvia** | 2.432 | 5.7 | 27 | 14.5 |
| **Lithuania** | 3.699 | 10.0 | 29 | 14.1 |
| **Malta** | 0.379 | 3.4 | n.a. | 5.3 |
| **Poland** | 38.657 | 145.6 | 37 | 15.3 |
| **Romania** | 22.472 | 31.9 | 27 | 6.8 |
| **Slovak Rep.** | 5.396 | 18.5 | 49 | 16.2 |
| **Slovenia** | 1.983 | 18.7 | 71 | 7.6 |
| **Turkey** | 66.212 | 173.1 | 28 | 7.6 |
| **Russia** | 146.200 | 173.2 | 31 | 13.4 |
| **Ukraine** | 50.000 | 38.7 | 15 | 4.3 |
| **Belarus** | 10.200 | 26.8 | 31 | 2.3 |

**Source :** Eurostat, World Bank, Organisation for Economic Co-operation and Development, national sources

**Notes :** G.D.P. = Gross Domestic Product
PPP = Purchasing Power Parities
(1) : figures refer to the Republic of Cyprus

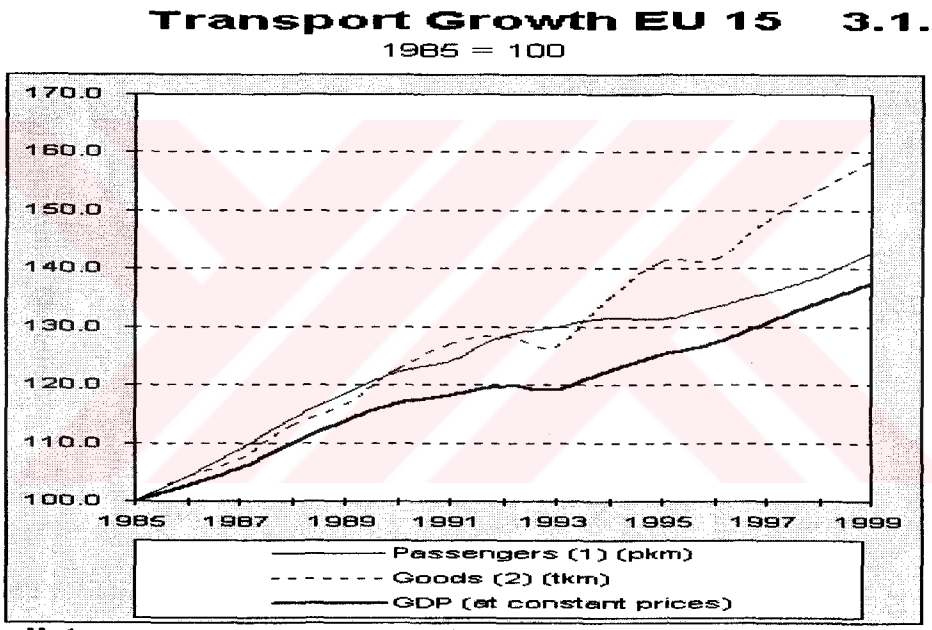
Figures 2.2. Comparison with Other European Countries
Source: EU website (retrieved on 31 July 2002)

Development of intermodality and TEN is one of the other top priorities of European Union. Intermodality will allow passengers and freight to use a combination of different transportation modes in order to reach their final destination. Most visible example of intermodality is the

use of high-speed rail service by airlines. For example, Air France (AF) is putting its code on trains between Brussels and Paris Charles De Gaulle Airport. Also, some other airlines are using bus services to transport their passengers to their final destination. For freight transportation, the example of high-speed ferry service between Barcelona and Genoa was cited by the White Paper. In the next 8 years, European Union intends to develop the necessary physical and legal infrastructure to make intermodality viable and a reality. European Union aspires to develop rail - road, road - sea including inland waterways for freight traffic and rail - air intermodality for passenger traffic. TEN plays a major role in the development of intermodality. Through TEN, European Union aims not just to strengthen transportation links between member but also through selected projects develop intermodality between different modes of transportation. European Union views TEN also a tool for increasing the role of rail and sea transportation in the Union.

Environment and transportation safety do get major emphasis in the White Paper. In the White Paper environment is viewed through the commitments of Kyoto protocol, internalization of costs and energy dependency/safety. European Union plans to meet its Kyoto commitments through directing transportation sector in general to more efficient modes of transportation (e.g. rail and sea transportation). European Union, also, seeks to accelerate this process through internalization of environment costs. Through the use of new technologies, European Union foresees that environmental cost calculations will straightforward and simple. This will allow these costs to be reflected to all users in a timely and just manner and encourage the use of

environment-friendly modes of transport. Another stated goal of European Union is to reduce Union's dependency on non-union energy sources (e.g. petroleum). European Union aims to increase use of alternative energy sources, which are produced by the member states, to % 20 of the energy requirement in the transportation sector.




**Annual Growth Rates EU 15**

% change

| | 1980-90 | 1990-97 | 1998 | 1999 |
|---|---|---|---|---|
| GDP (real growth) | 2.4 | 1.8 | 2.9 | 2.5 |
| Industrial production | 1.8 | 0.9 | 3.7 | 1.6 |
| Passenger transport pkm ( 5 modes ) | 3.1 | 1.7 | 2.0 | 3.0 |
| Freight transport tkm ( 5 modes ) | 1.9 | 2.6 | 3.7 | 3.6 |

Figures 2.3. Transport Growth in EU 15

Source: EU website (retrieved on 31 July 2002)

In land-based transportation, European Union's main target for 2010 reverse the growth of road transportation and

shift the freight and passenger traffic to more environmentally and economically efficient modes of transportation mainly rail and sea transportation where possible. European Union feels market based choice in favor of road transportation will change if railroads become more reliable and efficient. In order to create an efficient and reliable rail transportation framework, European Union aims to separate infrastructure and operation of rail service. Such a separation would not only allow competition in rail sector but should create more reliable rail network. European Union also emphasizes that rail infrastructure needs considerable investment to catch up with road transportation. Currently on European rail network, freight moves on an average speed of 18 km/hour. European Union also plans to create the necessary legal and technical framework for the harmonization of rules and regulations in the rail transportation sector. In TEN projects, rail transportation and intermodality infrastructure, which supports rail transportation, have been given high priority and make up the majority of these projects.

**3.2.2**

**Railways : High Speed Rail Network**

**Lines capable of speeds of 250 km/h or more**

**Length in km**

| | B | D | E | F | I | EU15 |
|---|---|---|---|---|---|---|
| 1981 | - | - | - | 285 | - | 285 |
| 1983 | - | - | - | 402 | - | 402 |
| 1988 | - | - | - | 402 | - | 402 |
| 1990 | - | - | - | 667 | - | 667 |
| 1995 | - | - | - | 1 124 | - | 1 124 |
| 1996 | 12 | 434 | 376 | 1 152 | 237 | 2 211 |
| 1997 | 71 | 434 | 376 | 1 152 | 259 | 2 292 |
| 1998 | 71 | 486 | 376 | 1 147 | 259 | 2 339 |
| 1999 | 74 | 491 | 377 | 1 147 | 259 | 2 348 |
| 2000 | 74 | 510 | 377 | 1 147 | 259 | 2 367 |

**Source :** Union Internationale des Chemins de Fer

**High speed lines under construction**

| | LINE | Length km under construction |
|---|---|---|
| B | Brussels - Liege | 62 |
| B | Antwerp - Dutch border | 38 |
| D | Leipzig - Nuremberg | 192 |
| D | Cologne - Frankfurt | 215 |
| D | Nuremberg - Ingolstadt | 88 |
| E | Madrid - Barcelona | 600 |
| E | Barcelona - France | 145 |
| F | Perpignan - Spanish border | 25 |
| I | Rome - Naples | 220 |
| I | Florence - Bologna | 77 |
| NL | Amsterdam - Belgian border | 120 |
| S | Nyland - Umeå | 190 |
| UK | Channel Tunnel - Fawkham Jn (London) | 74 |

**Source :** Union Internationale des Chemins de Fer
**Note:** the length under construction is not the distance between the above-mentioned places

Figures 2.4. High Speed Rail Network

Source: EU website (retrieved on 31 July 2002)

Sea and inland waterways transportation are sectors where European Union would like to see gain a larger share of passenger and especially freight transportation. Like rail transportation, these two sectors are underutilized and under funded. European Union foresees that through intermodality and development creative services, these sectors could make considerable gains in freight transportation field. Just like railroad sector, these sectors suffer from lack of

modern equipment and infrastructure investment. European Union aims to address the former by promoting investment in modern equipment through harmonization of ship registrations and easing taxes on ship ownership in the member states. European Union will force modernization of European shipping fleet through the implementation of newer and tougher safety standards in the territorial waters and waterways of European Union. On the infrastructure side, TEN will play important role in creating necessary infrastructure so that intermodality between sea and other modes of transport could be realized. Specificly, European Union will support innovative projects which develop sea - land transport intermodality or create competitive sea transportation products.

**3.1.13**

## Comparison EU 15 - World : Passenger and Freight Transport

| | EU 15 | USA | Japan | China | Russia |
|---|---|---|---|---|---|
| **Passenger transport** 1998 (billion pkm) | | | | | |
| **Passenger car** (1) | 3 676 | 6 216 | 723 | n.a. | n.a. |
| **Bus / coach** | 402 | 239 | 90 | 594 | 172 |
| **Railway** | 281 | 23 | 389 | 370 | 81 |
| **Tram + metro** | 50 | 22 | 31 | 5 | 72 |
| **Waterborne** | 32 | 1 | 5 | 12 | 0 |
| **Air** (domestic / intra-EU) | 260 | 767 | 76 | 80 | 56 |
| **Freight transport** 1998 (billion tkm) | | | | | |
| **Road** | 1 254 | 1 499 | 301 | 548 | 140 |
| **Rail** | 240 | 2 010 | 23 | 1 231 | 1 020 |
| **Inland navigation** | 121 | 521 | - | n.a. | 66 |
| **Oil pipeline** | 88 | 905 | - | 58 | 670 |
| **Sea** (domestic/intra-EU) | 1 167 | 460 | 227 | n.a. | 150 |
| **Transport impact** | | | | | |
| **Road fatalities** 1000 1999 | 42.1 | 41.6 | 10.4 | n.a. | 29 |
| **Transport $CO_2$ emiss.** million tonnes 1998 | 872 | 1771 | 278 | 219 | 137 |

**Source:** Eurostat, Energy and Transport DG, Japanese Ministry of Transport, US Bureau of Transportation Statisitics, Goskom STAT (Russia), China statistics, Organisation for Economic Co-operation and Development, International Road Trafic and Accident Database

**Notes :**
Transport $CO_2$ emissions do not include marine bunkers (=410 m t)
(1): Incl. light trucks / vans in the USA and light vehicles (149 bio pkm) in Japan

Figure 2.5. World Passenger and Freight Transport

Source: EU website (retrieved on 31 July 2002)

In air transport, European Union aims to control the growth of air transportation and utilize the available resources in much more efficient manner. According European Union, air transportation sector has shown a growth % 7,4 per annum which makes it the fastest growing sector since 1980. This growth caused considerable strain in the infrastructure of the sector. European Union plans to tackle this growth

and strain by reorganizing the air traffic control system and better utilizing the existing infrastructural resources. European Union also pushes intermodality, especially between rail - air, as major solution to the current capacity crunch that air transportation industry faces. European Union forsees through intermodality sizable intra-union traffic could be channelled to rail instead of regional or short-haul flights which take away valuable capacity. One of major projects on aviation in the White Paper is the creation of a single sky in the Union for air traffic control purposes. According to the White Paper, this consolidation of air space will allow better management of the total airspace over the Union which in turn will eliminate inefficiency in the system and allow maximum gains for the air transport system. Second major issue in the field of air transportation is environment. Noise pollution and tax on aviation fuel are the two issues that European Union will focus until 2010. In the field of noise pollution, European Union aims to have ICAO implement a stricter noise standarts than the current Chapter 3 standarts. Aviation fuel tax is part of European Union's effort to internalization of costs. Currently, air transportation sector does not pay any tax on the aviation fuel due to international agreements.

Overall review of the White Paper shows EU is quite satisfied with the development of air transportation even bit worried that this growth has been not at the expense of road transportation but rail and sea transportation. European Union would like to reallocate this growth where possible to railroads. For example, European Union would like to give lower priority regarding landing and take-off slots for a flight between a city pair where there is high-speed railroad service. This tendency shows in TEN priorities where project

on the improvements of intermodality in airports get a higher priority than new airport construction projects. In the White Paper, European Union accepts the difficulty on the expansion of airport capacity due to the local and political consideration. At the same time, European Union accept, although capacity utilization efforts mentioned in the White Paper, that construction of new airport capacity is unavoidable but the White Paper, does not suggest a way to overcome this problem. Intermodality is heavily emphasized as solution to capacity problems of aviation but the white paper does not fully answer if intermodality will replace or just supplement need for air transportation. Also, White Paper does not have a solid answer on how extensive the high-speed rail network will be by 2010 and how well connected to air transportation system. In the White Paper, European Union cannot create a credible argument why this growth has to be managed and restricted (e.g. for environmental reasons - too polluting or economic reasons - too costly) Eventhough European Union wants to manage the growth of air transportation sector but it seems just trying to restrict it because it can do so, unlike road transportation without much political aggravation.

White paper tries to put a comprehensive transportation policy but fails to do so in some aspects due to unrealistic expectation. In its general approach, White paper relies on sound fundamental ideas like environment friendly transportation sector, utilization most efficient form of transportation, internalization of costs and intermodality. European Union's aim of reducing road traffic and shifting it to other modes in a safe and environmental way is amendable and quite agreeable target but same view cannot be expressed for the goal of decoupling economic growth and the need for

increase transportation. Even though this decoupling is stated goal in the beginning of the paper but the rest of the paper disagrees with this goal trying to explain how the Union will try to manage this growth. This paper gives us a glimpse of the future shape of transportation network, but leaves this writer disappointed because it enters grand politics of social engineering and loses some of its viability.

## 2.1 Turkey

For large country such as Turkey, transportation is of vital importance, but it seems this importance does not translate it into policies. I could not find a master paper on transportation similar to European Union's White Paper. Two major sources that I have used, pointed with a major emphasis, that Turkey still lacks a master transportation plan. The closest source that approached to a master plan was the 8th National 5-year Development Plan of State Planning Authority (Devlet Planlama Teşkilatı - DPT). As previously mentioned, even this plan does not discuss the need for a master plan for transportation. Absence of such an important document will go along way in explaining the deficiency of Turkish transportation sector, where except road transportation, state plays a major role.

In land transportation sector, road transportation dominates Turkish transportation system. According DPT, % 96 of passengers and % 89 of the freight is carried by road

transportation. As the above-mentioned figures suggest, Turkish transportation system is overly reliant on road transportation. DPT and Pre-accession Economic program do only suggest that this unbalance should be corrected but do leave at that point. Both paper do point lack of legal framework for road transportation and the need to improve safety of road transportation. These two issues are also major action points regarding road transportation. On the former, DPT envisions that accession into European Union legislation will create and plug existing holes in Turkish legislative framework. Both papers accept the fact that the existing legislative framework for road transportation is either very incomplete or outdated or completely missing. On safety issue, DPT and Pre-accession program approaches are divided into two sections. First part of the approach deals with improvements on infrastructure and information technology that will allow better road and traffic management. Second part of the approach is related with the improvement of driver education and support personnel training in the sector through mainly through improved licensing procedures. In general, limited infrastructure investments focus on improving south - north connectivity and road that serve international traffic between Europe and Middle East/Central Asia.

Rail transportation sector in Turkey has declining since early 1950's and this decline has to stop yet. Both papers accept this fact. According to DPT, rail transportation carries % 4.7 of freight traffic and % 2.1 of the passenger traffic in Turkey. Like European Union, DPT plans to reverse this decline and make rail transportation major player in domestic transportation market but also for freight traffic between Central Asia/Middle East and Europe. In

order to make this goal a reality, DPT points three major projects: Turkey - Georgia railroad construction, railroad tunnel under Bosporus Channel and development of container carriage. Similarly to European Union, DPT points out the need for radical restructuring in the administration of railroads. As part of accession to European Union legislation, DPT foresees a separation between infrastructure and rail service where latter should be opened to competition in order to improve quality of service.

For Sea transportation, DPT sets out these goals as improvement Turkish ports to keep up with the growth of export and import potential in the Turkish economy, modernization of Turkish fleet with special ships (like Ro-Ro, Container ships and LPG/LNG tankers) and increasing the attraction of Turkish ports for transit traffic on north - south and east - west direction. Once again, adaptation of European Union legislation and improvement of training for Seamen and supporting staff stand out as priorities.

Air transportation has seen considerable regarding infrastructure and fleet size, even though passenger and cargo figures show similar growth but lacked the consistency. For the next five years, DPT plans to slow infrastructure growth and concentrate on improving service quality in 8 airports[2], which handled % 94 of the air traffic in Turkey. DPT also aims to better utilize regional airports through creation of regional airlines. DPT set also JAA membership and creation of an independent Civil Aviation Authority to replace current Civil Aviation Department under Ministry of Transportation as objective to be achieved in this five-year plan. Turkey became a member of JAA during 2001 but the law

on the establishment of an independent Civil Aviation Authority has yet to be adopted by the Parliament.

Overall view of Turkey's transportation policy shows that the existence of such policy is quite difficult to find. The reasons for this absence could be found in the transportation bureaucracy of Turkey. Ministry of Transportation has the responsibility for rail and air transportation. A State Minister directs policies for sea transportation sector. For road transportation, Ministry of Transportation and Ministry of Construction share the policy maker role. The responsibility for transportation policies is split between several ministries without any coordinating body unlike European Union. European Union Commission has limited executive powers both financial and administrative wise in the field of transportation but through its regulations and TEN, European Union is acting as a coordinator to 15 member states in the field of transportation. Lack of such coordination or leadership evidences itself in the lack of a master transportation plan or a policy paper on transportation. This lack of leadership also evidences itself in the total dominance of passenger and freight transportation by the road transportation. For aviation, this manifests itself in the construction of new airports or lack of any domestic competition. Without any master plan, one finds it quite difficult to compare European Union and Turkey's transportation policy. Turkey should create with haste a transportation master plan in order to determine transportation priorities because each sub sector has its own priority projects. Turkey's limited resources does not allow it to have many competing projects but again, without a master plan, it is not possible to judge which project should

[2] İstanbul Atatürk, Ankara, İzmir, Antalya, Dalaman, Bodrum, Trabzon, Adana

get the priority over the other one's. On the other hand with the dominance of road transportation, the sectors should receive higher priority in order to break the reliance on road transportation. Sea and rail transportation are the sector that are much neglected and could be better utilized with small investments. Also, concept of intermodality should be also introduced and supported in cost-effective way.

# III. ECONOMICS OF AIR TRANSPORTATION

An inner working of today's civil aviation sector is full of contrast, which creates a very interesting picture. The economics of civil aviation sector can be studied in many ways but I have chosen to study them according to the type of services that they offer: scheduled passenger & cargo, charter, all-cargo. These three types of services have many similar and dissimilar characteristics in terms of cost and revenue. Before going into detail of these characteristics, it is appropriate to study how one enters and exits the industry.

## 3.1. Exit & Entry

In principle, exit and entry into air transportation sector is very easy since expensive infrastructure is built and maintained by the states and capital-intensive equipment can be leased or financed through a well-developed aviation equipment leasing industry. With sufficient capital, which is very much less than the total cost of acquiring such equipment, it is possible to start an airline operation in a very short time. The equipment used in air transport industry is a high-technology product with high safety standards incorporated into them. They are expensive to buy and maintain. They require highly qualified and trained staff in order to be maintained and operated. It costs

around 20-30 million USD to purchase a new regional jet like RJ100[3], around 65-80 million USD to purchase a medium range jet like Boeing 737[4] or Airbus 320[5] and around for 120-150 million USD to purchase long range jet like Boeing 747-400 or Airbus 340[6]. These prices do not include maintenance and other related costs. Civil Aviation is a capital-intensive industry with low-level barriers to entry when the initial investment costs are considered.

Airline business requires technically qualified staff in every stage of its operations. A Boeing 737-300 crew cannot operate 737-800 without qualifying for this type of aircraft although these two aircraft are basically same type of aircraft with slight differences. Same way, a cabin crew of MD-11[7] cannot serve in an Airbus 340 without being trained for this type of aircraft. A maintenance technician has to qualify progressively for different aircraft types and maintenance tasks. Ground personnel have to be trained on operating complex computerized systems that are used in accepting passenger and cargo at the airport. In addition, personnel at headquarter has to be capable of handling complex accounting procedures and other details that have been developed by the air transport industry.

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[3] RJ100: short range four engine jet produced by BAE (British Aerospace Engineering) for regional services. It has a seating capacity of 99. Retrieved: 3 November 2001 www.baesystems.com

[4] Boeing 737: medium to short range two engine jet produced by Boeing mainly for medium haul service. Boeing 737 has numerous series (-200, -300, -400, -500, -600, -700, -800, -900) with seating capacity from 100 – 190 seats. Retrieved: 4 November 2001 www.boeing.com

[5] Airbus 320: medium to short range two engine jet produced by Airbus mainly for medium haul service. Airbus 320 has a seating capacity from 150 seats. Retrieved: 4 November 2001 www.airbus.com

[6] Airbus 340: long range four engine jet produced by Airbus for long haul service. Airbus 340 has numerous series (-200, -300, -500, -600) with seating capacity from 250 – 380 seats. Retrieved: 4 November 2001 www.airbus.com

[7] MD-11: long range three-engine jet produced by McDonnell – Douglas and later Boeing for long haul service. MD-11 has seating capacity ranging from 290 – 350 seats. Retrieved: 4 November 2001 www.boeing.com

Airlines were the earliest users of the computers. They were used by airlines to run the reservation systems showing the complex nature of the air transportation business. Aircraft operating from any airport requires also an extensive support network. This support network includes a range of services at the airport from loading, unloading passenger & cargo, fuelling, marshalling to maintaining and operating the instrumental landing systems. Without the support of this network, airplanes cannot operate in crowded airspaces and over long distances like transatlantic and transpacific. These networks are expensive to operate and create a sizeable part of an airline's operating cost. In reality, running an airline is a quite expensive venture than it seems, although the number of airline being established contradicts this conclusion.

Exit from the airline business is very easy compared to many other capital-intensive industries. There is not much investment in fixed or immoveable assets like airport terminals (with the exception of United States), air traffic control systems, ground handling systems since the considerable part of this type of investment is done mostly by state or other parts of the industry. Any assets that an airline might own are very marketable relative to their value. Aircraft do retain their value very well since they are constantly maintained. Flight, cabin crew and technicians have skills that are always in high demand in the aviation sector. Liquidation of an airline is a comparatively easy task than in the other sectors of the economy.

## 3.2. Passenger & Cargo

There are two different types of commercial service providers in aviation that handle cargo and passenger traffic: scheduled & charter services. They are very similar in operational structure but they act and behave to different sets of economic rules. They also have different revenue and cost streams.

### 3.2.1. Scheduled Services

OECD[8] (**O**rganization for **E**conomic **C**o-operation and **D**evelopment) defines scheduled services as below:

"Flights listed in a published timetable, or so regular and frequent as to constitute a recognizably systematic series, and performed for numeration."

For an airline operating scheduled services, the design of its network is very important because it determines what percentage and type of passenger and cargo it will attract. There are three major network designs: line, grid, hub and spokes. Line network design is defined as[9]:

"In a line network the aircraft sets out from its base airport and makes a number of intermediate stops en route through to its ultimate destination."

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[8] The Future of International Air Transport Policy(1997). Organization For Economic Co-operation and Development, Head of Publications Service: Paris, 144

[9] Hanlon, Pat (1996) Global Airlines Competition in Transnational Industry, Oxford, England: Butterworth-Heinemann, 70

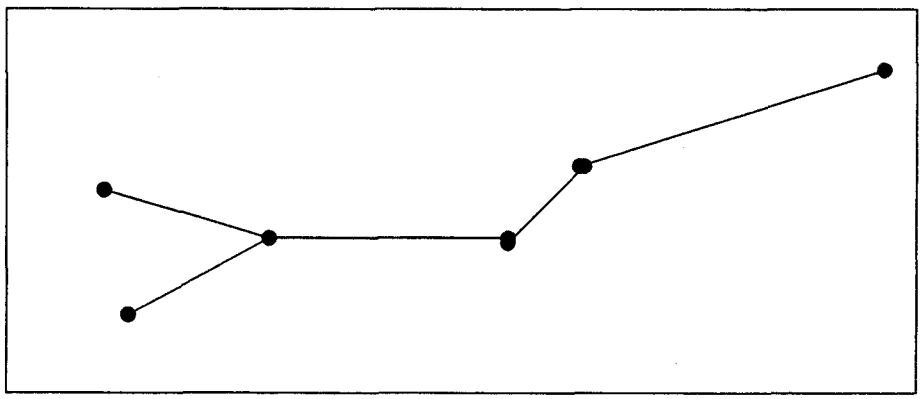

Figure 3.1. Line Network

Line network designs are becoming slowly obsolete because they were not created for efficiency or fast turnarounds which are basic tenets of modern networks, but they were designed for a time where aircraft could fly limited distances and number of passengers that could afford to pay the airlines fares were limited. Therefore, faraway destinations technically required multiple stops to reach it or short-range destination required combining of passengers with different destinations in order for the flight to be economic. On the other hand, this type of design has a lot of disadvantages in today's passenger market. Passengers always prefer direct flights to one or more stop flights. Sometimes passengers prefer connecting at an airport to one or more stop flight since in such flights passengers may be forced to sit inside the plane during refueling, embarking and disembarking of other passengers. Technologically, there is no reason to perform such flights since the introduction of long-range planes like (Boeing 747, Airbus 340 and MD-11). These aircraft can fly to most destinations from anywhere in the world. Also there are many additional costs that are associated with the one or more stop flights like crew cost, landing cost, ground handling cost, extra fuel expenditure on

take-offs and landings. Today only a few airlines fly according to a line network designs.

Grid network design is defined as[10]:

"Grid networks have often been a characteristic of domestic air transport…a current example is India where the domestic airline's network is very much in the pattern of a grid, based as it is on the diamond rectangle of Bombay/Delhi/Calcutta/Madras."

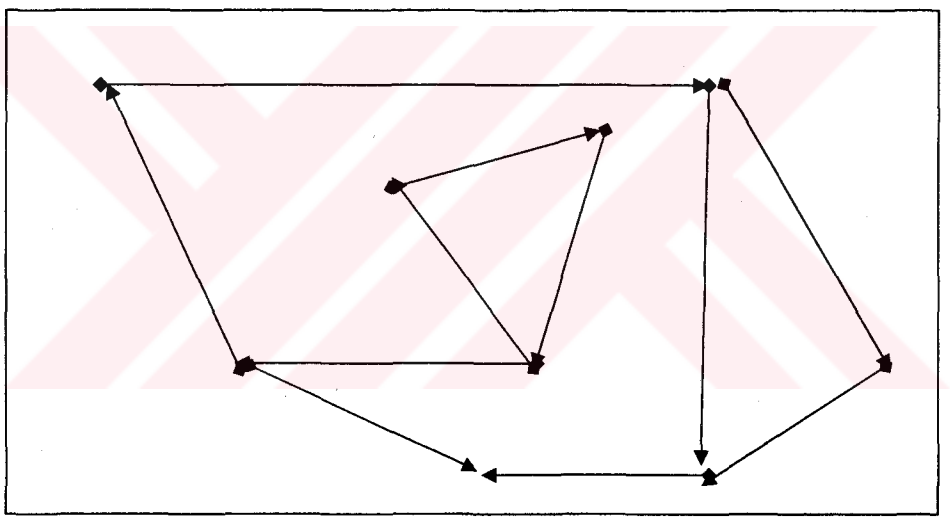

Figure 3.2. Grid

The advantage of grid system is that it allows airlines to have high crew and plane utilization but airlines do face difficulties in marketing such a network in liberalized air transportation markets.

Hub and spokes network design was popularized by United States airlines after the liberalization of the air

[10] ibid, 71

transportation market in 1978 and now widely used in some shape and form by the major airlines of the world. Hanlon[11] defines hub and spokes system as:

"An important advantage in hub and spokes networks, in which routes radiate from a central hub airport to a number of outlying spoke airports, is the effect they have in multiplying by permutation the number of city pairs an airline can serve."

An alternative definition presented by O`Connor[12]:

" A hub and spoke system consists of a set of "spoke" routes flying to and from minor markets into major "hub" cities. The major airline, which creates the hub and spoke system, flies some of these spokes itself. Commuter, local, or smaller airlines whom the major airlines have co-opted into system flies other spokes. A set of much longer and heavier regional spokes connects major traffic hubs, and are all operated by the creator of the particular system. Indeed, the traffic potential of the regional spokes is the reason behind the creation of the system... The basic notion of a hub and spoke system is that flights from many different cities converge on a single airport - hub - at approximately the same."

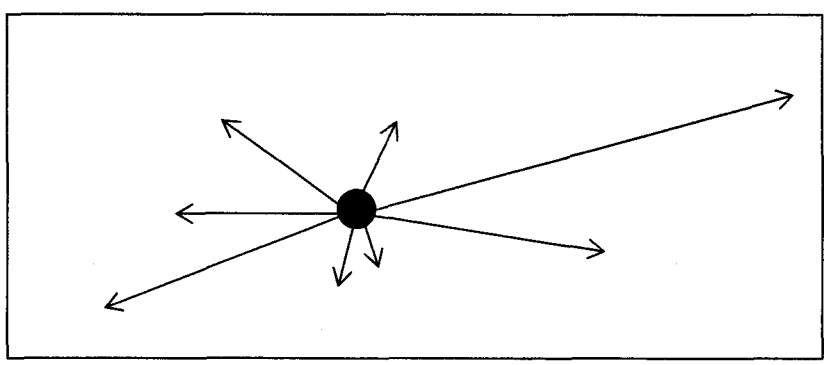

Figure 3.3. Hub and Spokes

[11] ibid, 71
[12] O'Connor, William E. (1995) An Introduction to Airline Economics, Westport, Connecticut: Praeger 23

Hub and spokes network's main advantage is that it allows full utilization of the airline network allowing for more connecting city pairs than other network designs.

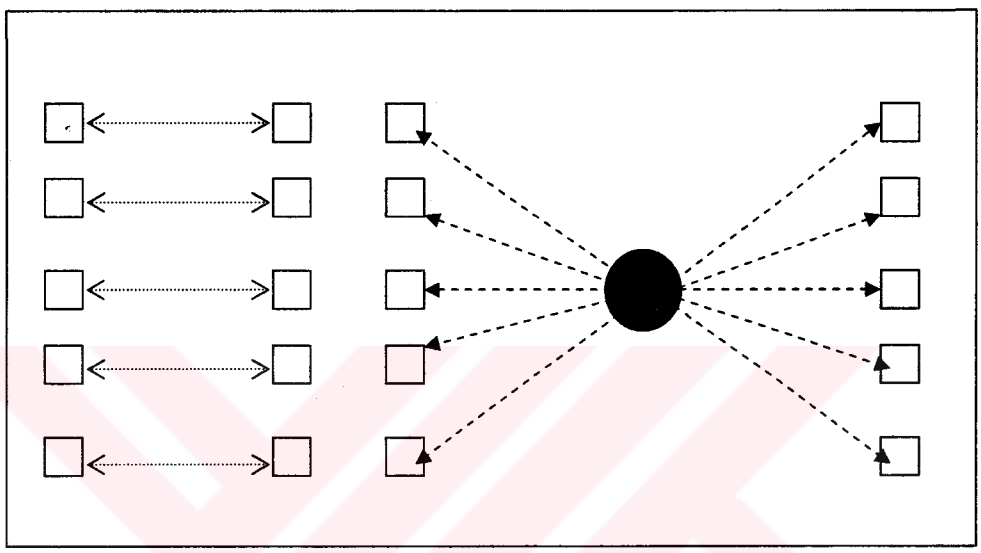

Figure 3.4. Linear routes ⇒ Routes via a Hub

In hub and spokes network, each additional destination theoretically adds another 11 city pairs (2):

"Mathematically, if there are *n* spokes, an airline can provide through connecting services for up to a theoretical maximum of n (n-1)/2 city pairs."

Table 3.1. Formula for Hub and Spokes

| No. of spokes | Max. No. of connecting markets | No. of local markets | Max. No. of city pair markets |
|---|---|---|---|
| N | N(N-1)/2 | n | N (N+1)/2 |
| 5 | 10 | 5 | 15 |
| 10 | 45 | 10 | 55 |
| 25 | 300 | 25 | 325 |
| 50 | 1225 | 50 | 1275 |
| 100 | 4950 | 100 | 5050 |

Hub and spokes network designs differentiate into two types according Hanlon: hourglass and hinterland. According Hanlon, hourglass hub and spoke designs allows an aircraft to fly from a spoke to the hub and then proceed to a spoke in the opposite direction. Hinterland network is designed in order to feed long haul flights with short haul flights from the "hinterland". According Hanlon whereas the hourglass system uses same aircraft to perform whole operation, hinterland system requires a change from short range to long-range aircraft.

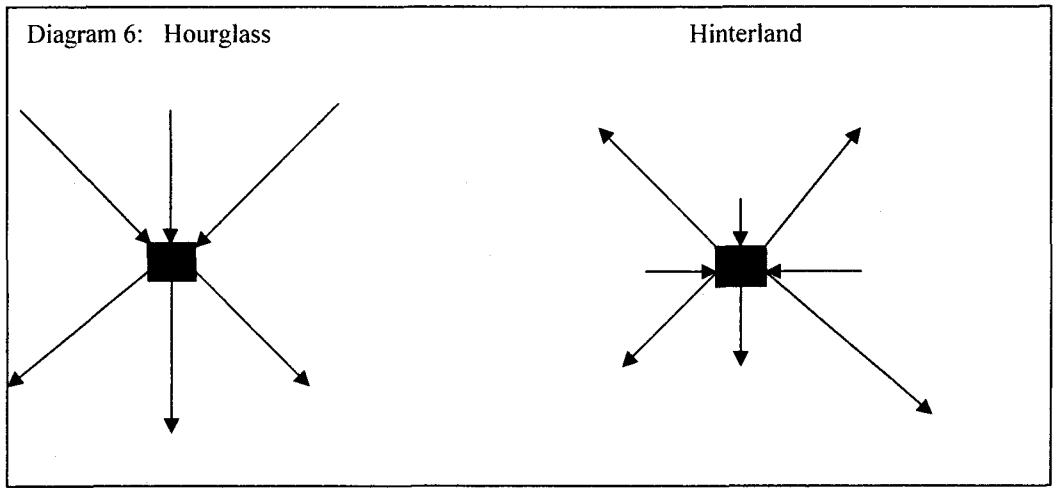


Figure 3.5. Hourglass and Hinterland Models

In United States and Europe, major airlines use a combination of two designs in creating their network. Geographical position and fleet composition also play important roles in deciding which type of network design will be dominant type in the hub and spoke system. For example, British Airways network allows it to market Oslo-London-Dubai, which would be defined as hinterland design. Turkish Airlines network allows it to market Amsterdam-Istanbul-Dubai, which would be defined as hourglass operation. British Airways would be more inclined to perform hinterland operations since its main market is Europe and most lucrative hourglass market would be United States, which has too much competition. The other hourglass markets would be Middle East, Central Asia, which are not as developed and lucrative as United States as a market. Turkish Airlines' lucrative market is Europe. Its "hinterland" of Balkan Peninsula, Caucasian region and Middle East are not very well developed air transportation markets. These reasons make Turkish Airlines more inclined to perform hourglass operations.

According Hanlon, the hub and spokes networks in United States are much more efficient in creating transit passengers than their European counterparts. There are several reasons according to the author:

- Large liberalized domestic market on which United States carriers rely in order to create traffic.
- On the opposite end European Carriers reliance on international traffic which is restricted by Bilateral Air Transportation Agreements (BATA)

Restriction in the BATA does prevent the airlines from developing efficient networks. This is much truer in Europe than in US. According to generally accepted definitions, there are eight traffic rights that can be extended to an airline:

- **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.
- **3rd freedom:** The right of an airline of one country to carry traffic from its country of 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 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 foreign countries via its own country of registry. This is a combination of third and fourth freedoms.
- **7th freedom:** The right of a carrier 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).

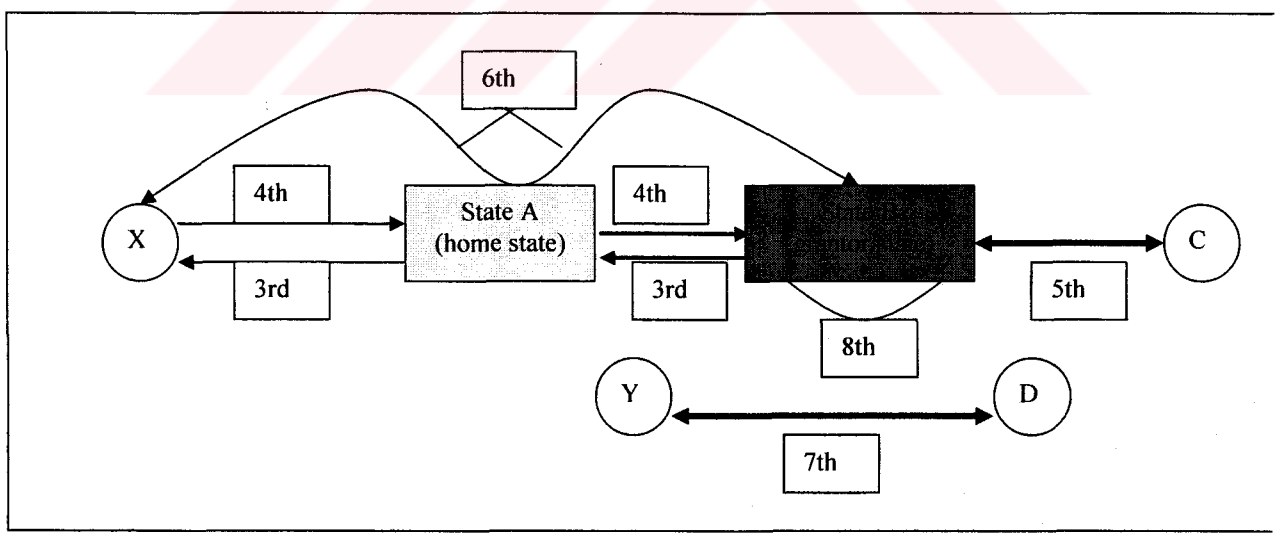


Figure 3.6. Freedom of Air

Most countries assigned to each other after the Chicago Convention in a multilateral agreement called IATAS first and second freedoms in 1944 to which USSR (now Russian

Federation) was the major exception and has to yet sign this above-mentioned agreement. The third and fourth freedoms are assigned on the basis of the BATA between two countries and fifth freedom is one of the most negotiated right over which countries like to haggle constantly. Sixth freedom is seen as a natural right since it is difficult to enforce and is not that well defined in most air transportation agreements. Seventh freedom is rarely demanded and negotiated since most lucrative routes are well served by home carriers and fifth freedom carriers. It is also expensive to operate stand-alone operation outside of your hub or maintenance center. Eighth freedom or otherwise known as cabotage is rarely asked for by other countries and very rarely assigned.

Along these rights, there are other details in the agreement, which determine how frequently and where an airline will operate. Most of the bilateral air transportation agreements are "Bermuda" type of agreements. Bermuda type agreements are restrictive type of bilateral Air Services Agreements that usually regulate and restrict route, capacity, fare and frequency of service items between the parties of such agreement. These types of agreements are restrictive in the sense that they define an airline's rights in terms of capacity[13], frequency[14] and route[15]. Also these agreements include the terminology of fair and equal sharing of the air transportation market between the designated carriers of the two countries. Air Transportation agreement between Turkey and Syria has the following common capacity article:

" 1. There shall be fair and equal opportunity for the designated airlines of both Contracting Parties to operate

[13] Capacity: number of seats and cargo volume that an airline make available in a certain market
[14] Frequency: the number of round trips an airline can perform in a certain route.
[15] Routes: Destinations between which airline is allowed to perform scheduled service.

the agreed services on the specified routes between their respective territories.
2. In operating the agreed services, the designated airline of each Contracting Party shall take into account the interests of the designated airline of the other Contracting Party so as not to affect unduly the services which the latter provide on the whole or part of the same routes."

Capacity between any two countries can be divided by several methods. One of the most used methods is restricting the aircraft types that can be used on the market to certain size and capacity. Frequency restrictions also define how many times an airline will serve a national market or a city pair. Routes in an agreement determine which cities that an airline will serve between the two countries. All these factors restrict the commercial freedom of an airline in designing its network and may sometimes impose additional costs and inefficiencies into an airline operation.

# IV. EUROPEAN UNION AIR TRANSPORTATION SECTOR

The single and unified air transportation market of the European Union has its roots in the founding ideas of the European Communities. The idea of single market for air transportation began to be realized in the early eighties. The progress toward a single market started slowly but picked up pace with the introduction of the third package of air transport liberalization measures. By 1997, third package was fully realized and the European Union created a single air transportation market consisting from all of its member states. In this single market, any citizen or any legal entity of the member states can establish an airline in any member state and serve any city pair including the one's considered domestic before. Restrictions on capacity and fares are lifted, as long as they are not anti-competitive[16]. Difference between charter and scheduled airlines does not exist in the single market. The single market currently exists internally only even though European Commission would like to extend its powers to external markets i.e. international agreements, institutions regulating air transportation and bilateral Air Services Agreement (ASA) between member countries and third parties. In order to better understand why and how the single market on air transportation came about, one has to appreciate liberalization efforts in air transportation sector since 1970's led by the United States.

Today, European air transportation sector is slow but unrelenting change. Competitors, who did not exist 10 years

ago, are putting their stamp on the sector. Previous monopolies or dominating player are struggling or even going bankrupt. It has been nearly ten years since the implementation of the final measures regarding liberalization of the European Union's air transportation market. This liberalization is creating new players like low cost carriers (LCC), which did not exist in early 1990's and also changing the behavior of older players in the air transportation sector. The sector in its current stage could be divided into three competing separate fields: scheduled, charter, low cost carriers.

Scheduled air transportation represents flag carrier and major players of European Union air transportation field like British Airways, Air France, Lufthansa, Iberia, Finnair, KLM, SAS and Alitalia. These airlines operate in the most fields of air transportation from scheduled long distance transportation to regional air service to tourist charter operation. They all have sizeable fleets and expensive cost structure. Liberalization of air transportation market had a consolidating effect on this field due to increased competition between airlines in the group and from outside sources like charter carriers and LCC. The biggest airlines of this group (Lufthansa, Air France, British Airways, KLM) grew and strengthened their position where smaller and weaker players like TAP, Alitalia struggled or like Sabena collapsed due to increased competition. Liberalization has put this group into defensive stance awaiting maturation of liberalization process in order to merge or acquire other airlines. The European Union Commission (Commission) has widely and publicly encouraged consolidation of this group of airlines but current bilateral Air Services Agreement in

[16] Covered by the Treaty of European Union articles 85 and 86.

forces do not allow such activities due restricted nature of ownership clause. Commission plans to overcome this difficulty through renegotiation of these agreements in order to bring them in line with European Union regulations. This process will take considerable time given the number of countries involved, limited resources of the Commission and the fact that the Commission has not obtain the mandate to negotiate in this field from the European Union Council (Council). At the same time, internal competition in the European Union is taking a heavy toll on this group due their high costs and political interference. This competition is mostly evident in the intra-union routes where this group competes with charter carrier[17] and newly emerging LCC. At these routes, competition has lower costs and prices. Offering full service in these routes is not attractive to the point-to-point traffic but the scheduled airlines do not stop operating in this market because they are important feeder operation to the long distance flights of the scheduled carrier where they do dominate the market. All cargo carriers mainly benefited from the liberalization but they were also introduced to competition from express parcel carriers like DHL and TNT. Express parcel carriers not only competed in small parcel market but also used their spare capacity and connections with large companies to gain market share in the traditional cargo market.

Charter market was also affected by the liberalization but in a different completely different manner. The liberalization gave charter airlines a freer hand in their operations. At the same time, the charter carriers' activities are heavily tied with fortunes of tour operators,

[17] After liberalization, European Union does not make any legal differences between charter and scheduled carriers. I have kept this distinction for the convience of classification.

since they are the true customers of the charter carrier. Tour operators do tend to be vertically integrated and have expanded vertically and horizontally during 90's. The charter carriers were naturally affected from this consolidation in the market. Many were either taken over by the tour operators or other charter airlines that were either owned by a scheduled airline or a tour operator. This process was facilitated by the liberalization of the air transportation market by EU. After liberalization of European market, some airlines moved to provide scheduled transportation by re-branding their regular charter operations into scheduled services. In truth, charter operators stayed in the same line of business and operated mainly on tourism routes such as England - Spain, Scandinavia - Mediterranean coast (France, Spain, Greece and Italy). Only a small minority of charter carriers ventured into business markets like London - Frankfurt, Paris - Frankfurt or Milan - Paris. For charter carriers, liberalization made doing business easier but did not bring any major changes in regarding composition of the market. LCC did have some effect on them but LCC overtook part of the market that charter carriers were losing to scheduled airlines: independent individual traveler. This type of traveler tends to stay away from mainstream packaged tours and makes his or her travel arrangements.

LCCs in Europe are the creation of European Union's liberalization efforts but their roots lie in United States of America. Southwest Airlines is the role model for this group of airlines. The leading airlines in European Union are Ryanair, Easyjet, Go and Virgin Express. With the exception of Virgin Express, all these airlines are based in Britain. On the operation side, they have many similarities

between each other and dissimilarities with the scheduled airlines. LCCs limit their fixed and all other costs to a minimum. This is reflected in very aspect of their operations. LCCs have usually single type of aircraft in their fleet (mainly Boeing 737 series). They don't have network concept and perform mainly point-to-point short or medium distance flights (usually up to 2 hours of flying distance) from the hub. The in-flight service is bare minimum or has to be purchased. There are no overnights stays for aircraft and crew outside the hub[18] and perform quick turnarounds in out-station. LCCs do not have a traditional interlining with other airlines. Flight and cabin crews do work longer than the scheduled carriers crews for similar pay. Also for cost reason, LCC's avoid traditional distribution systems like travel agents and CRS (**C**omputerized **R**eservation **S**ystems) and rely heavily on the Internet to sell their services. Some LCCs will avoid main or large airports for ground handling costs and operate out of secondary or regional airport with lower ground handling costs. LCC have developed specially during last 5 years. Just like in United States of America, LCCs thrived in the liberalized atmosphere where they fly anywhere and at any price. LCCs diverted some passengers through their low fares from the scheduled carrier to their flights but according Flight International[19] % 50 of LCCs passengers are passengers that would have otherwise not traveled or used another alternative mode of transportation. So the LCCs have also market-creating effect but at the same currently LCC do represent the fastest growing segment of air transportation sector. After terrorist act of September 11$^{th}$ and the following crisis in aviation, LCCs kept on growing and

[18] Campbell Alexander & Kingsley – Jones Max (2002). Rebel Skies. Flight International 161, (4826: 9-15 April) 29-39..

expanded whereas the scheduled carrier contracted in size and passenger numbers. LCCs are classified in two groups. First group of LCCs concentrate on leisure traffic, secondary and regional markets. Second group of LCCs operate on business markets. Former group is currently having more success, but second group has also benefited from the current economic slowdown and made permanent headway into business market. LCCs are recent development and future still holds many answers regarding their development. Currently, they have brought competition to intra-Union air transportation market but due to operational philosophy and cost structure of LCCs, they have not ventured to international air transportation market.

Liberalization of European air transportation market brought many radical changes. In order to understand how and why these changes came about, one has examined cost and revenue structure of air transportation including marketing. In the next sections, I will try to explain in detail inner working of aviation from cost and revenue side including the history of liberalization efforts in United States of America and European Union, which will establish groundwork for the following sections and facilitate a clearer understanding on the previous sections.

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[19] Ibid.

## 4.1. Airline Costs

According Doganis, airlines separate their costs in two categories: operational and non-operational. According ICAO, there are five items that fall into this category:

1. The gains or losses arising from the retirement of property or equipment, both aeronautical and non-aeronautical. Such gains or losses arise when there is a difference between the depreciated book value of a particular item and the value that is realized when that item is retired or sold off.
2. Interest paid on loans, as well as any interest received from bank or other deposits. For some costing purposes, however, such as aircraft evaluation, some airlines would include interest paid on aircraft-related loans as an operating cost.
3. All profits or losses arising from an airline's affiliated companies, some of which may they be directly involved in air transport.
4. An assortment of other items which do not fall into the previous three categories, such as losses or gains arising from foreign exchange transactions or from sales of shares or securities.
5. Direct government subsidies or other government payments.

With this separation, the airlines aim to sort out costs that are not directly related with operational activities of an airline. This separation also applies to revenue side of the airline business. Our main focus will be on the operational side of costs.

### 4.1.1. Operating Cost

Operating costs also separate themselves into two categories: direct and indirect cost.

Table 4.1. Structure of Operating Costs

Direct Operating Costs (DOC):

1 Flight operations
- Flight crew salaries and expenses
- Fuel and oil
- Airport and en route charges
- Aircraft insurance
- Rental/lease of flight equipment/crew

2 Maintenance and overhaul
- Engineering staff costs
- Spare parts consumed
- Maintenance administration

3 Depreciation and Amortization
- Flight equipment
- Ground Equipment and property
- Extra depreciation (in excess of historic costs)
- Amortization of development costs and crew training

Indirect Operating Costs (IOC)

4 Station and ground expenses
- Ground staff
- Building, equipment, transport
- Handling fees paid to others

5 Passenger services
- Cabin crew salaries and expenses
- Other passenger services costs
- Passenger insurance

6 Ticketing, sales and promotion

7 General and administration

8 Other operating costs

Direct operating costs cover as the list above shows costs when an operation is performed. Among these items, fuel and crew costs are the two largest items. Modern aircraft are much more fuel-efficient than earlier counterparts but they are also larger and do travel longer distances. Even with improvements in fuel efficiency, an aircraft consumes large amount fuel to get airborne and stay airborne. Flight crews are highly qualified personal who are paid accordingly. Their costs not only include salaries but also allowances, pensions, insurance and other social welfare payments. Third significant cost item would be airport charges and charges paid for air traffic control services during flight. Maintenance cost can be divided into three parts: direct maintenance on the airframe, direct maintenance on engines and maintenance burden. Depreciation and amortization costs vary by airline depending on the methodology and the length of time chosen for the depreciation.

Indirect costs consist of items that are not directly related to flight operation but incurred during operations of an airline (in activities such as passenger handling, marketing and etc…). One of the major items in indirect cost is ground staff and ground handling. Ground staff and handling deal with the passengers and cargo at the airport. Their main job is to direct passengers to aircraft for boarding the airplane and load cargo into the aircraft and make necessary preparations in order for the cargo and passengers to be loaded onto the aircraft. These cost also include equipment and buildings used in the ground handling operations. Ground handling services rented from outside

suppliers are also included in this list. Cost of passenger services include services provided before the flight or after the flight including the time spent on the ground during a stopover. This cost item also includes expenses like hotels given to passengers when their flights are delayed and lounges provided to upper class passengers (defined as passengers flying in Business or First class) before the flight and after the flight. The ticketing, sales and promotion item includes cost related to distribution and administration of tickets. Promotion covers items related to the marketing of the product and advertisement through different mediums to the public and trade specialist such as travel agents, tour operators, cargo agent and etc. General and administrative cost item accounts for general administrative staff salaries and costs like accounting, interline accounting, and revenue management, which are managed from the headquarters. Any other items that cannot be categorized with any specific department fall into other operating costs category.

### 4.1.2. Factors Influencing Cost

Above are costs of an airline categorized as direct and indirect. There are factors that influence the total of expenditure of an airline. Some of these factors are: wage levels, fuel prices, user charges, demand, aircraft type, operational choices, and marketing and management quality.

General wage level of an airline is very important since it is a service sector company using highly qualified personal. For most airlines wage costs represent 25-35 % of their total operating costs.[20] But absolute level of wages depends on the country and bargaining power of the labor. Third world countries have lowest labor costs. The exception of Japan, Asian countries have cheaper labor cost than their western counterparts. American airlines have lower labor costs than European airlines but the gap is closing. These are generalities, as just in the case of Japan in Europe there are airlines like British Airways that do have lower labor cost than the rest of European airlines. Another important factor in determining wage costs of an airline is the prevailing conditions in the labor market of home country. Airlines in countries with fewer labor regulations and restrictions do tend to have lower wage levels than countries with more regulations and restrictions with similar level of development. Where government interferes in labor market directly or indirectly to which Turkey is an example of government interference where government implicitly restricts Turkish Airlines freedom to negotiate with the union by directing airline management through a employer's union of state owned enterprises, wage levels might be higher or lower depending which way the government pushes them. Labor productivity is an important side factor. Airlines like Singapore Airlines with high labor productivity and low wages tend to be in a very competitive position. European and North American Airlines tend to have high labor productivity per employee but not in other measures like in available ton-kilometers (ATK) per employee:

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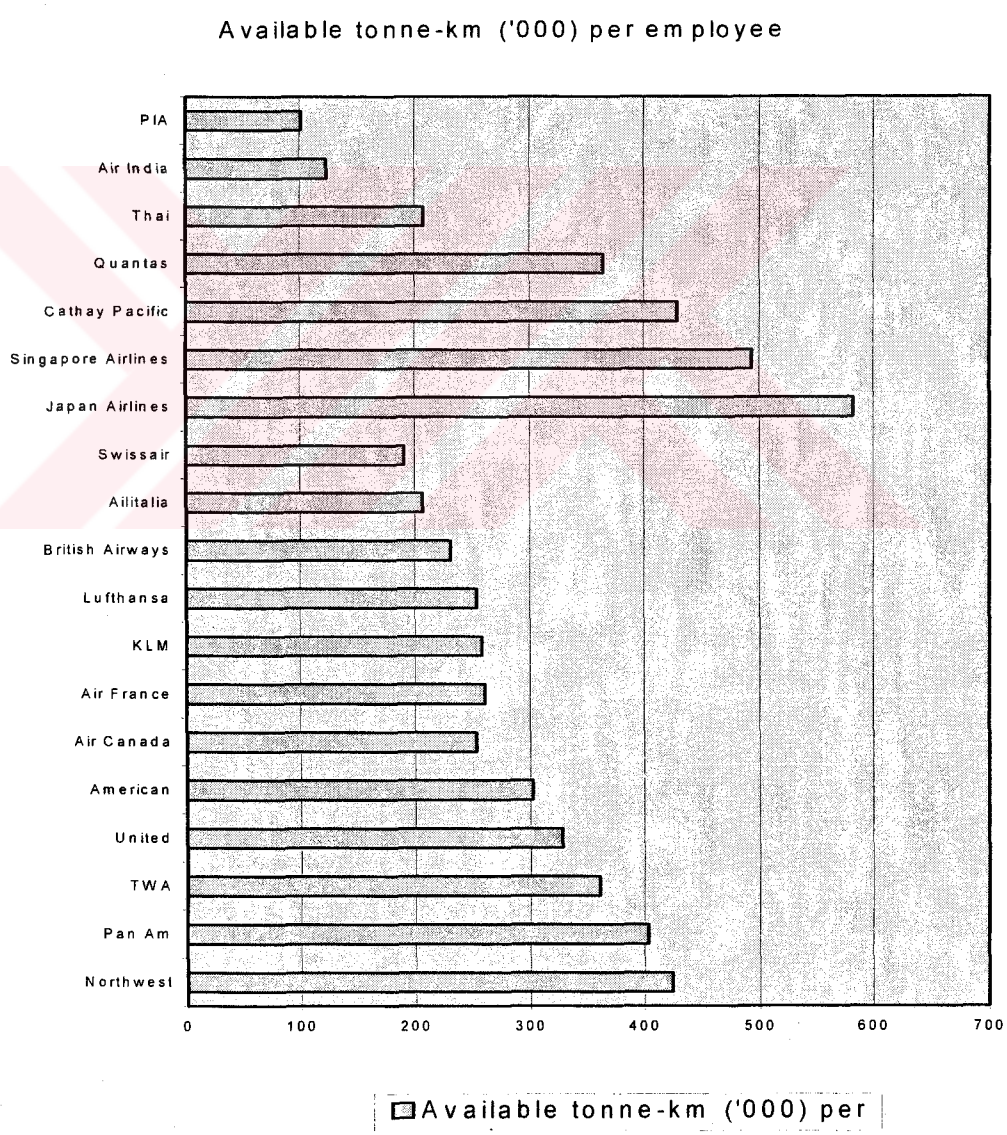
[20] Doganis, R.S. (1991), Flying off Course: The Economics of International Airlines, London: HarperCollins, 135.

"If labor is a cheap resource, there may be operational or service benefits in employing more than strictly necessary. Since comparative wage rates vary enormously, it may be more indicative of efficiency in the use of labor to compare airlines in terms of ATKs per $1,000 of labor cost"

Table 4.2. Labor productivity, 1988



Source: ICAO data

This measure determines the true cost of labor to a company and allows a comparison of different airlines.

Fuel price is also another important determinant of the airlines costs just like any other company operating in the transportation sector. Fuel costs make up around 25% of the cost during a flight and between 10 to 20% of the total cost for an airline[21]. Airlines try to lower this cost in several ways. Airlines negotiate with fuel supplier in order to get discounts for mass consumption. They achieve great savings this way. For example, in Hong Kong official price of fuel is 110 cents but a big buyer can get the price down to 58 cents. The potential for savings also depends on the number of supplier in an airport and on government policies in that country. Since the price of fuel depends on the price of crude oil over which airlines have no control. Saving through mass buying is relative to the price of crude oil. Airlines also try to save by reducing flight speeds and consuming less during the flight. The main way of saving on fuel expenses comes in upgrading to newer and more fuel-efficient engines and aircraft.

User charges are another item that is outside the control of airlines. User charges consist of two items: airport and en route facilities charges. The percentage of user charges in the total cost can change depending to the operational pattern of the airline. Short haul airlines will have higher user charges because they will land and take off more than a long or medium haul airline; therefore pay more in airport charges. For short haul carriers like British

Midland, user charges represent 20% of their total cost where as for Singapore Airlines (SIA) it represent around 5% of their total cost. The airport and civil aviation authorities determine user charges. Airlines try to manage these charges through pressure groups like IATA and AEA. Airports charges and en route charges change from country to country depending on policy of the country and cost related to the air traffic services.

Table 4.3. Overflight Charges

| | Charges for a 500 km over fly distance in USD | |
|---|---|---|
| **Country** | **747** | **MD80** |
| Japan | 1493 | 1293 |
| UK | 1134 | 465 |
| France | 819 | 336 |
| Italy | 777 | 319 |
| Germany | 762 | 312 |
| Netherlands | 631 | 259 |
| India | 544 | 306 |
| Argentina | 536 | 200 |
| Egypt | 359 | 94 |
| Kenya | 199 | 64 |
| Venezuela | 183 | 51 |
| Canada - Atlantic routes | 129 | 129 |
| Philippines | 100 | 100 |
| United States | None | None |
| Manchester (peak) | 8157 | 2190 |
| Manchester (off- | 7035 | 1725 |

[21] ibid, 138

| | | |
|---|---|---|
| peak) | | |
| London-Heathrow (peak) | 6477 | 3080 |
| London-Heathrow (off peak) | 1221 | 795 |
| Frankfurt | 6470 | 1524 |
| Tokyo-Narita | 6305 | 1062 |
| Montreal | 5238 | 1768 |
| Amsterdam | 5147 | 1321 |
| Paris | 4758 | 1109 |
| Zürich | 4568 | 1230 |
| Rome/Milan | 4030 | 1188 |
| New Delhi/Bombay | 3297 | 384 |
| Buenos Aires | 2732 | 338 |
| Cairo | 2343 | 729 |
| Singapore | 1876 | 254 |
| Rio de Janeiro | 1754 | 295 |
| Bangkok | 1513 | 220 |
| Kuala Lumpur | 1320 | 184 |
| New York | 1297 | 219 |
| Caracas | 1140 | 192 |
| Hong Kong (peak) | 1022 | 356 |
| Nairobi | 529 | 72 |
| San Francisco | 490 | 83 |

Table 4.3. (continued)

Source: ICAO data

Except in the United States, airport charges are based on two items: weight of the aircraft and number of passengers in aircraft. In some countries, the latter charge is directly levied from the passengers as an

independent charge even though ICAO recommended method is to include them in the ticket. For Istanbul Atatürk Airport, a 15 USD passenger service charge is included in the ticket but in Bangkok, similar passenger charge for 500 Baht is collected from each passenger before entering passport control. These cost factors that we have discussed make up around 40% to 50% of the any airlines total costs.[22] Every Airline tries to maximize the use of these resource in order to lower their costs but their success depends on a lot of factors that we will discuss latter like their operational patterns, passenger demand, type of aircraft used.

Demand in general is one of the most important deciding factors in lowering cost. According to demand, an airline will shape its operation to maximize its resources in the best possible way. Demand determines the way a route is served by any airline. Demand determines the frequency and type of aircraft that will be used a particular route. For example, Turkish airlines serves currently Köln market daily with Boeing 734-400 (150 seats maximum capacity) and in the summer season when there is sufficient demand this market is served with an Airbus 310-200 (225 seats maximum capacity) twice daily. During summer time resources of Köln city and airport office is better utilized than the winter period. Lower unit cost are achieved in this station during the summer also since more cargo possibilities open up due to use of Airbus 310-200[23] having much bigger cargo capacity than the Boeing 734-800[24]. This rise in demand also bring some additional costs but these are usually well below the income derived from the extra flights. According to Doganis, demand is also determined by following factors: "The routes that

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[22] ibid, 143

[23] Cargo capacity of Airbus 310-203 is 24995 kg. Retrieved: 22 June 2000 www.thy.com

they serve and the density of demand on those routes are largely determined by the interplay of geographical, political, economic and social factors outside the airlines control." For example Australian Airlines and New Zealand Airlines are forced to fly mainly long distance routes where as Belgium Airline Sabena will do mostly short-haul routes in Europe and some long haul route to its former African colonies. In this scheme, Turkish Airlines will be defined mainly as a medium haul airline serving Europe and Middle East with few long haul routes. Demand in relation to revenue will be discussed later.

Aircraft type is another important factor in determining your total costs. If an airline's fleet consists of older aircraft like Boeing 727 and DC-10, the airline is bound to have high fuel expenditure and maintenance costs. Recently operators of older aircraft had to pay penalties for noise pollution. In the last 20 years environmental issues became major concern for air transportation as whole. Especially European Union (EU) gives this issue a major importance. EU has already passed many regulations dealing with this issue. Recently a proposed ban on hush-kitted Chapter 3 aircraft (hush-kitted: aircraft engine modified to up to Chapter 3 standards; Chapter 3 noise pollution standards set by ICAO for aircraft) created a major dispute between EU and United States of America. Matching the aircraft with the route and demand is important for the efficient use of aircraft. In cost terms as a rule, larger aircraft are economical than smaller aircraft per seat[25] but expensive in terms of total cost. Due to technological developments, modern aircraft

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[24] Cargo capacity of Boeing 737-800 is 2700 kg. Retrieved: 22 June 2000 www.thy.com

[25] According Doganis (145): "it is relatively easier and cheaper per unit of weight to push a large mass through the air than the smaller one. (The same applies to mass in water. Hence the development of supertankers.)"

(Airbus 340/330, Boeing 777/767) require two-person flight crew instead of three (Boeing 747, DC-10).

The main cost benefits of newer aircraft come in the shape of more seat capacity[26]. For example, Cathay Pacific Airlines increased efficiency of its operations by switching from Tri-Star to Boeing 747s even though both aircraft operating with three man flight crews even though crew costs were higher by 12 % in the Boeing but it offered 40 % more seat capacity in comparison to the older aircraft type. One has to keep in mind that seat costs in these aircraft are achieved with different average sector distances. Airlines have still decisions to make whether to go for lower total cost or lower cost per seat since smaller aircraft have lower total costs.

Aircraft type is also important in the respect of maintenance because an airline fleet consisting of the same type of aircraft will have a significant reduction in maintenance and training costs. At the same time, there is not significant savings or economies of scale for a large mixed fleet compared with a small fleet, which is one of the major reasons why small airlines can compete with the larger airlines[27]. Owning a fleet of same type or a few types of aircraft allows an airline to negotiate better price when purchasing the aircraft or when buying spare parts for same aircraft. With standardization of aircraft type, airlines will need to train its technicians for fewer aircraft types. Airlines will have the flexibility to switch and substitute aircraft; therefore giving the airline more control over its crew and flight management.

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[26] ibid, 145
[27] ibid,160

## 4.2. Revenue

All these above-mentioned costs have to be covered by the revenue that an airline earns through the service it provides. Also it is the aim of many airlines to make satisfactory return on their investment whether they are state owned or not. One has to remember the definition of satisfactory return does not always mean profit in economical sense. A state investing in an airline might have different expectations than a private investor. A state expects that its national airline serve its outlying areas with regular air service even though it is commercially not viable to do so. In Turkey, Turkish Airlines serves eastern and southeastern Turkey. The state forces on Turkish airlines a rebate of %50 on any ticket to this region for anybody performing an official duty. Turkish Airlines has yet to be reimbursed for these rebates by the State. In EU, underdeveloped regions might be eligible for subsidized air service under social program. (Services to Azores Islands or Air Services to French colonies in the Pacific) A state might use the airline in line with its foreign policy aims. Aeroflot was used in line with Soviet foreign policy by establishing air routes to its allies regardless of the potential demand for that route. Aeroflot flew many African countries that were allies of the Soviet Union during the cold war. Many of these air services were discontinued after the end of the cold war. In other cases, states will use an airline to promote tourism and trade and use the airline as a pillar for this policy. United Arab Emirates and Singapore

have highly ranked airlines like SIA and Emirates, which promote their home countries tourism industry. These countries use the leading position of their airlines to promote their country as commercial centers for their respective regions (e.g. Dubai, Singapore). These different expectations in return create different policies for each airline and how they approach the market.

Airlines have to decide which end of the market or what segments that they would like to target: high-end of the market, low end of the market or leisure market. Most airlines cover more or less of all these markets but give emphasis onto one of these markets because there are considerably different marketing approaches to all of these markets. And in some airlines case, there is no well-taught strategy planning about which of these markets the airline will compete. Also it is important to understand one's market before deciding which of the markets it will approach. Market information will direct the airlines on how to approach different segments of the markets and their needs. For example KLM[28] with a small home base and very small domestic market targets transfer business and high-end of leisure traffic. 70 %[29] of the KLM passengers are transfer passengers meaning their origin and destination are somewhere outside of Netherlands. In contrast across the North Sea, 70 % of British Airways' passengers have their origin or destination in British Isle. KLM also does not offer first class service whereas British Airways heavily competes for the first class passengers. In South East Asia, Singapore Airlines (Singapore: Pop: 3.3 million, land size: 618 $km^2$) is in a similar predicament as KLM: affluent but small home

[28] Royal Dutch Airlines
[29] Leonard Hill (1999). 80 Years Young. Air Transport World,(October)46.

base and no domestic air transportation market. Singapore Airlines just like KLM [Air France (France: Population: 58 million and land size: 547026 $km^2$) British Airways: (United Kingdom: Pop: 58 million and land size: 244046 $km^2$)] has nearby airlines with large home markets: Thai Airways, Malaysian Airlines (Malaysia: Population: 20 million, land size: 330442 $km^2$, Thailand: Population 58 million land size: 514000 $km^2$). Accordingly Singapore Airlines has to rely on transfer traffic and has promoted itself as a high-class airline with highest standards of service for its passenger regardless of the class they fly in. This service is not just during the flight but extends itself before the flight and after the flight. Singapore Airlines boosts three class of service: first, business and economy. Singapore Airlines tries to differentiate some its in-flight product by assigning them different names. Raffles is the name of the business class. Delta Airlines has recently introduced a new business class has designated its business class as Delta Business Elite. Singapore Airlines markets its first class as one of the best in the world and competes for the first class customers with airlines from all over the world. Whereas Singapore Airlines competes to attract for high-end market and serves only major cities of the world[30], KLM serves many small and medium markets in Europe through its partners or subsidiaries[31]. It is natural that Singapore

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[30] SQ destinations: Auckland, Christchurch, Perth, Melbourne, Sdyney, Adelaide, Brisbane, Denpasar, Surabaya, Jakarta, Kuching, Kota Kinabalu, Bandar Seri Begawan, Manila, Taipei, Kaohsiung, Fukuoka, Osaka, Nagoya, Tokyo, Hiroshima, Seoul, Beijing, Shanghia, Hong Kong, Macau, Guangzhou, Hanoi, Ho Chi Minh City, Bangkok, Penang, Kuala Lumpur, Dhaka, Calcutta, Chennai, Colombo, Male, Mumbai, Delhi, Kathmandu, Lahore, Karachi, Dubai, Jeddah, Cairo, İstanbul, Athens, Johannesburg, Durban, Capetown, Rome, Zurich, Madrid, Frankfurt, Amsterdam, Copenhagen, Brussels, Paris, London, Mancester, Vancouver, San Francisco, Los Angeles, Chicago, New York. Retrieved: 5 July 2001 www.singaporeairlines.com

[31] KLM's major partners are Northwest, Kenya Airways and its subsidiaries are: KLM Cityhopper, KLM UK, Transavia and Martinair Holland. Singapore Airlines has one Subsidiary: Silkair. Silkair serves South-east Asia and complements Singapore Airlines network. Retrieved: 12 March 2000 www.klm.com

Airlines and KLM have different cost structures and priorities than each other's.

On the other hand, Turkish Airlines targets a different and specific segment of the market than these airlines: leisure and ethnic. Turkish Airlines has sizeable domestic market with growth potential even though there is competition from the private commercial airlines since 1980's. Turkish Airlines can rely on ethnic traffic to some extent year around and heavily in summer months. Tourism is also a major source of passenger for Turkish Airlines year around especially during the summer time. Turkish Airlines relies heavily on these two markets for revenue. Turkish state policy of promoting tourism and linking its ethnic population with a special emphasis given to the population that has migrated Western Europe as guest workers to Turkey pushed Turkish Airlines in this direction. All these natural tendencies and state influence has effected on the Turkish Airlines management and its managers into marketing their flights for these segments of the market. This tendency is clearly reflected on Turkish Airlines schedule. Turkish Airlines serves 9 points in Germany: Frankfurt, Köln, Düsseldorf, Stuttgart, Berlin, Hamburg, Hannover, Münich, Nurnberg and in France: Paris, Nice, Lyon and Strassbourg. All these destinations have sizable Turkish ethnic population. These choices also pushed Turkish Airlines to the low-end of the market: leisure and ethnic traffic. Only recently due to heavy competition from charter carriers and other scheduled carriers in these markets, the need for year around consistent income stream and aircraft utilization has pushed Turkish Airlines to look for transfer and high-end segments of the market. It should be noted that Turkish airlines has offered business class for a long time. The

product has never been at the leading edge of the industry. Turkish Airlines has never heavily promoted its business, first class and transfer connections.

Only in the recent years with the need to increase its revenue in the face of heavy competition for its traditional markets and expansion beyond its traditional markets has forced the airline to look into these above-mentioned segments. Accordingly Turkish Airlines just like KLM revamped its business class and is in the process of upgrading it to a higher standard and eliminated its first class service[32] in order to concentrate on business class segment of the market. In line with these changes, Turkish Airlines has refocused its network and created departure and landing concentration so called "waves" to improve its connectivity and to meet the demands of its business customers. With all these changes, Turkish Airlines is beginning to reorient itself as an airline for the high end of the market.

[32] First class services was discontinued as of April 1st, 1999 , Turkish airlines annual report 2001

## 4.3. Segments of the Market

Definition of high end and low-end of the market can change from one airline to another. In all these definitions, the common identifying item would be that high-end of market brings considerably more revenue to an airline but at the same time, the high-end of market is expensive to serve and capture. High-end of the market also travel much more frequently than low-end of the market. According to Eastern Airlines[33], a group of passengers that the airline identified as the "demanding" group made up 9 % of the passengers but generated 21 % of trips and 27 % of airline's income[34]. Low-end of the market brings low revenue per person but they are inexpensive to serve and much easier to capture as a market segment as long as you are one of the price leaders or price yourself close to the leaders and are reliable to a certain extend. One major problem with the low-end of the segment is that they do not travel frequently and have high seasonality in their travel pattern with heavy demand during vacation period, summer and other special occasions.

### 4.3.1. High-end of the Market

High end of market usually consist of people traveling on business, people from high-income segments of their society and people with urgent travel needs. These people

[33] A U.S. Airline that went bankrupt in mid-1980s.

are attractive in many ways for the airline. They are willing to pay the highest fare in order to have the maximum flexibility, comfort and convenience. The cost of such services and flexibility is much lower than the fares the airlines charges for this service. High-end of the market looks into different details in choosing which airline they will travel with. According a survey done in 1987 among businessmen, they consider punctuality, convenient schedules and frequency as most important issues when they are choosing an airline for trips shorter than 2 hours. For longer trips, comfort can be added as another factor. For the high-end and businessmen, time is a very important factor for them; so a schedule which fits to their demands and maximizes their time utilization is very important. For example, high-end demand on transatlantic routes makes Concord operations, a supersonic passenger aircraft developed in 1970's capable of flying twice speed of sound (around 2000 km/h) which can travels from London - New York in three hours, economically viable. One should also note that Fares on Concord vary between 5000 USD to 7000 USD and there is only one class in Concord: First class

To attract high-end segment means that costs will be higher than normally it would be. Airlines catering for the high-end passengers design their schedule on high frequency basis. KLM and Swissair serve Istanbul twice daily. Their schedules are very similar and specifically designed to cater to the businessmen on the both ends of the market and transfer passengers[35]. Each has flight early in the morning from Istanbul arriving in Zurich and Amsterdam around 9:00 in the morning. Their first flights take off from Amsterdam and

[34] Doganis, R.S. (1991), Flying off Course: The Economics of International Airlines, London: HarperCollins, 210

Zurich around 10:00 in the morning and arriving in Istanbul around 14:00 hours in the afternoon. These flights leave about one hour later and arrive in their respective cities around 18:00 hours in the evening[36]. The second flight of the day from their hubs[37] leaves around 20:00 hours in the evening and arrives in İstanbul around midnight.

Table 4.4. Swiss and KLM schedules to İstanbul

| Swiss Zürich - İstanbul - Zürich | | |
|---|---|---|
| LX1804 | Zürich - İstanbul | dep. 10:30/arr. 14:15 |
| LX1808 | Zürich - İstanbul | dep. 20:40/arr. 00:20* |
| LX1809 | İstanbul - Zürich | dep. 07:00/arr. 09:05 |
| LX1805 | İstanbul - Zürich | dep. 15:15/arr. 17:20 |
| *Denotes next day arrival. | | |
| KLM Amsterdam - İstanbul -Amsterdam. | | |
| KL1610 | Istanbul - Amsterdam | dep. 06:00/arr. 08:35 |
| KL1614 | Istanbul - Amsterdam | dep. 15:00/arr. 17:50 |
| KL1613 | Amsterdam - Istanbul | dep. 09:50/arr. 14:05 |
| KL1617 | Amsterdam - Istanbul | dep. 19:20/arr. 23:40 |

Source: Swiss and KLM websites (01 August 2002)

This allows a businessman from Istanbul to fly Amsterdam or Zürich and return on the same day. Similarly a

[35] To North America mainly
[36] Possibility of transferring to far-east flights to destinations like Hong Kong, Australia, Japan

businessman from Zürich and Amsterdam can arrive at the airport after his workday in Zürich or Amsterdam to fly to Istanbul and return to home next day. At the same time, this schedule allows KLM and SR to carry transfer passengers out of İstanbul to destinations all over the world and Europe offering its passengers convenience[38]. This approach has its cost with regard to operations. Both KLM and Swissair leave their planes and crews overnight in Istanbul, which create additional costs, that would not occur if the airplane stayed in Amsterdam or Zürich overnight like parking expenses, crew accommodations and extra station expenses. Swissair and KLM operate narrow body aircraft on these routes like Airbus 320 (Swissair) and Boeing 737 (KLM), which have high operating cost per seat.

### 4.3.2. Low-end of the Market

Low end of the market is made up of leisure traffic, people visiting their relatives and businessmen with advance planning. For the low-end of market, there is one overriding issue, price, although other issue might become important for some passengers (especially businessman with advance planning and those passengers who plan for short get-aways). Flexibility and comfort-based features are not valued highly because for most people, they have already planned their trip sometime ago and adjusted their schedule accordingly. Also this segment with exception of businessmen and weekend

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[37] Amsterdam and Zürich are respectively KLM and Swissair's hub

[38] It is the general policy for these Airlines to fly the destinations they serve frequently as possible. (For short haul destination to start with a minimum of 5 frequencies per week and for long haul destination 4 frequencies per week if the bilateral ASA allows to do so.)

passengers are highly seasonal and create peaks and valleys in demand for air transportation. This segment is also price sensitive and tends to migrate to the price leader in the market[39]. For example, Turkish Airlines flies to Bangkok with daily frequencies and with a group fare of 559 USD. The flight takes around 8 hrs but many agencies in the market prefer Gulf Air and Kuwait Airlines because they can offer considerably lower fares even though the trip to Bangkok is considerably longer than the direct flight (flying with Gulf air might require a overnight stay and with Kuwait Airlines takes total of 23 hours to reach Bangkok). This migration threat keeps the profits on these passengers to a minimum requiring that airlines have either high seat density or operate with large aircraft to keep operating costs as low as possible. Turkish Airlines operations on Zürich and Amsterdam routes would demonstrate advantages and disadvantages of this type of passenger. Turkish Airlines operates daily to these destinations.

Both of these destinations have considerable ethnic and leisure traffic concentrated around June, July and August with the highest volume of passenger realized. Turkish Airlines operates daily to both of these destinations with narrow-body aircraft in accordance with off-season demand. The schedules on these operations were designed to take local traffic and transfer traffic from the Middle East to Zürich and Amsterdam. The flights took off from İstanbul between 08:00-09:30 and landed in Amsterdam and Zürich around midday and took off from the respective European cities around between 13:00 and 14:00 to land around 18:00 hours in Istanbul with local traffic and connecting traffic to Middle-east and Far-east. This schedule offers something for every

[39] Interview with Mehmet Taylaner

type of passenger and tries to make its operations efficient as possible. It tries to offer business passenger daily connection to Zurich and Amsterdam, which this type of passenger looks for, however it takes off later than its competitors and arrives in Zurich where half of the workday has already passed and turns around in an hour or so back to fly to İstanbul. In this case, a businessman is forced to spend a day and he can only return to İstanbul the next day after the work hours. In total a businessman would spend two days, if he flies by Turkish Airlines to above-mentioned destinations. It should be noted there is no research that I am aware of about the travel habits of Turkish businessman and how much time they spent on average for a business trip to Europe. It is quite possible due Turkish business people's travel habits Turkish Airlines schedules does not have any negative effect for this segment of traveling population.

For the leisure traffic, even though the schedule is not high on their list priorities when choosing an airline they would prefer a very early morning departure or late evening departure in order to use the whole day in the origin or the destination. Turkish Airlines tried with this type of schedule to compromise on the demand of the business and leisure. Turkish Airlines redesigned its network to offer more frequency to business centers in Europe like London, Frankfurt, and Paris[40]. In this redesigned schedule, Turkish Airlines flies on most days of the week twice daily to Zurich:

[40] Effective from Winter 1999/2000 scheduling season to London, Frankfurt, Paris

Table 4.5. Turkish Airlines İstanbul - Zurich - İstanbul

| | | |
|---|---|---|
| TK1907 | İstanbul - Zürich | dep. 08:30/arr. 10:20 |
| TK1909 | İstanbul - Zürich | dep. 12:50/arr. 14:50* |
| TK1908 | Zürich - İstanbul | dep. 11:20/arr. 15:10 |
| TK1910 | Zürich - İstanbul | dep. 16:25/arr. 20:20* |

*Operated except on Monday, Tuesday and Wednesday every week.

Source: Turkish Airlines website
(01 August 2002)

In this new schedule, there is an early morning flight leaving İstanbul around 08:30 in the morning for Zurich arriving in Zurich around 10:30 in the morning catering to the businessman and transfer traffic from the Middle and the Far East. This flight leaves Zurich an hour later, arriving in Istanbul around 15:20. The second flight catering, mainly local and domestic transfer traffic leaves Istanbul at noon, arriving in Zurich around 16:00 hours and leaving Zurich around 18:30, arriving to İstanbul with transfer and the returning business traffic. Even though Turkish Airlines is moving to cater to the business traffic and high-end traffic, but it is still trying to capture low-end of the market by substituting larger aircraft when the demand rises or in peak periods operating extra flight to these markets, whereas high-end carriers Swissair and KLM rarely do change aircraft type and in very exceptional cases perform extra flights. In its current schedule, Turkish Airlines' product is similar in quality, but not convenient as the Swissair and KLM products, though lower in cost due to lower number of flights performed, and lack of night stay out of the operational base.

## 4.4. Factors Effecting Demand for Air Transport

There are many minor and major factors affecting the demand for air transportation. Some of the factors will be important on route level in determining the demand whereas others will affect the market as a whole. Below is a list of the whole set of factors affecting a market or a route[41]:

Table 4.6. Factors of effecting Air Travel

| Affecting a market | Affecting particular routes |
|---|---|
| Level of personal disposal income | Level of tourist attraction - scenic/climatic/historical/ |
| Supply conditions - fare levels, speed of air travel, convenience of air travel | religious attributes, adequacy of tourist infrastructure, comparative prices |
| Level of economic activity/trade | Exchange rate fluctuations |
| Population size and growth rate | Travel restrictions |
| Social environment - length of holidays and attitudes to travel | Historical/cultural links |
| | Earlier population movements |
| | Migrant labor flows |
| | Nature of economic activity |

Source: Doganis,216

[41] ibid, 216

Seasonality is a very important factor affecting the demand. Most travel is done during holidays and summer time by judging from the prices and high season definition of the airlines. High season is usually the middle of summer, when schools close and the most of industrial sectors slow down so that their workers can take vacations. Religious holidays, most important one's being Christmas and Ramadan effecting around 2 billion people, are other high seasons in which a great deal of people will travel to visit either holy places or to see their relatives or friends. Also the weather is more convenient to travel in summers than in winters so more people naturally prefer to travel during the summer.

Trade is an important factor in determining the amount of business travel in that particular market. According to a research, done by Civil Aviation Authority of United Kingdom[42], trade in a market determines the level of business travel in a market. In regard to this research, some sectors like manufacturing do contribute business travel more than other sectors in the economy. Also the level of economical openness determines the level of travel, since in a closed economy; there is less demand for business travel than in an open economy with similar size. The level of disposal income plays a very important role on the size of air transportation market in a country. Higher disposal income translates into more frequent air travel and as the disposal income increases, the length of the air travel gets longer. Up to a certain point, the consumer with higher income will travel more and more as their disposal income rises. So, nations with higher disposal income will have larger air travel market and therefore those countries with higher disposal income are very valuable markets.

The rise in the number of alliance are all connected to the wish of non-American airlines to reach large internal air transport market namely U.S. and Canada (for practical purposes Canada and the U.S. can be considered as one market) and in the eyes of Airline industry an alliance without an American partner is not viable one e.g. Qualiflyer. Social and economical relations of a country play also another very important role in determining which air transportation routes will be the most important for this country. For example for Pakistan, these routes would be Pakistan - England, Pakistan - Gulf States (United Arab Emirates, Bahrain, and Kuwait).

On Pakistan - England route, the reasons for the large air transportation market are social and historical. Pakistan is a former colony of the United Kingdom (England, Wales, Scotland and Northern Ireland) and there is a large ethnic Pakistani population living around the major cities of England. Pakistan - Gulf States routes have become an important destination about mainly in the last 25 years due to the oil boom in the Gulf States creating high demand for labor, mainly in the service and construction sectors. Pakistan has supplied this demand, and in the process, created an air transportation market with high seasonal movements between the Gulf States and Pakistan. For the Hong Kong case, Hong Kong - London route and Hong Kong - Taiwan routes are the two other important markets. Both of these routes have strong economic ties. England, being the colonial master of Hong Kong until 1997, is home to a large number students studying in London and also considerable number of Hong Kong citizens who also hold British passports. A sizeable minority of British citizens still resides and

[42] ibid, 220

works in Hong Kong. Currently, Cathay Pacific, British Airways and Virgin Atlantic serve this route with 5 daily flights. Taiwan's connection to Mainland China due to political situation between People's Republic of China and Taiwan is established through Hong Kong. Hong Kong and Taiwan have strong economic and trade ties, where Taiwan funnels its investments on Mainland China through Hong Kong.

For Turkey similar markets also exist especially on routes between Turkey - Germany. Ethnic and economic ties between the two countries create a very large air transportation market, which is not just served by scheduled carrier which number 6 for the German side and 2 for the Turkish side but it should also be so noted that numerous charter carriers operate between Turkey and Germany. It is estimated; around three million Turkish citizens live in German. They create a natural demand for air travel all year long and a peak demand in the summer. In addition, commercial and tourism ties are very strong between Turkey and Germany. Turkey has been a favorite destination for the German tourist for many years. Germany also has sizeable economic investments and relations in Turkey and in the last ten years Turkey has began to make investments in Germany. All these manifest itself for the air transportation market as such. Turkish Airlines flies to nine points, Frankfurt, Münich, Düsseldorf, Köln, Hamburg, Berlin, Stuttgart, Hannover, Nürnberg, in Germany with 107 flights per week including cargo flights from Ankara and Istanbul. Lufthansa serves from Frankfurt and Munich to Istanbul, Ankara and İzmir with 65 frequencies per week. Turkish airlines and Lufthansa are the main carriers in this market, but there are numerous Turkish and German airlines, which regularly or on

charter basis serve, not just to/from Istanbul and Ankara but also Antalya, Dalaman, Adana, Bodrum and İzmir.

## 4.5. Pricing Policy

Pricing policies of airlines have gone through a considerable change in the last 20 years. Until 1978 or so, airlines have jointly determined their fares through the IATA fares coordination conferences for all the regions of the world. The prices determined in these fare coordination conferences, which are held twice annually for 5 different regions for covering whole world. The universal fares, established in these conferences, will be accepted by any airlines, which is member of IATA. These fares allow passengers to interline between two airlines. Meaning the passenger can fly two different airlines on the same ticket. For example, a passenger can fly with Cathay Pacific from Hong Kong to Istanbul and than continue with Balkan Airlines to Sofia on the same ticket. This was very convenient for the passenger and allowed an airline to market destination that they did not fly. A major disadvantage of the system was that, in order to agree on the fare levels, they were kept so high that these fares would fit into every airline's cost structure. Also participant airlines in these conferences agreed to use only these fares and no other fares, which caused a cartel behavior among airlines. Even though since early 1970's airlines created illegally and secretly cheaper fares to be used on in their flights and even started to break rank. The push to break this system came in 1978 from the U.S. during its internal deregulation

of aviation industry, which declared this system as a cartel and therefore illegal. This was the last straw that broke the IATA system back.

IATA fare coordination conferences are still held but the importance of what is known as published fares has declined very much. Today, these fares are rarely used and special fares are the norm in the aviation sector. With the collapse of the IATA fare system, the number of fares available to passengers rose considerable. It used to be that a passenger had only the choice of first, business, and economy fares available and maybe some high-density routes, a cheaper fare called "apex" with restrictions. Today an airline may offer on a busy route around six or seven economy class fares, excluding business, economy[43] and published fares on any date.

Through the use of fares with different restrictions, airlines are attempting to reach all the segments of the passenger market as possible. Larger airlines will use a system called yield management to capture passenger who are not willing or unable to afford the normal economy fare. Yield management systems help airline to manipulate of seat prices to obtain the most revenue from each flight. Yield management systems are based on estimating the number of full fare tickets that would be sold on a particular flight and then offering the remaining tickets at varying discounts to create demand from more price-sensitive passengers. The discounted tickets generally have strict conditions to make these tickets less attractive to those passengers who are willing to pay full fare. The airlines use these systems to maximize their revenue; because once a flight is in the air,

the unused seats have no value. For example if Turkish Airlines sells at the last minute its unused seats on İstanbul - London flight for 50 USD per one-way flight, it will create additional income that it would not have normally (note: the cheapest fare to London is 329 USD for Turkish Airlines). According Doganis, the cost of a seat in the short-run as a marginal cost is close to zero and if the seats are sold[44], this would mean additional revenue that the airline would not have otherwise: "If they are not sold at the moment of production, the seats and seat-kilometers generated are lost forever."

The yield management purpose is to capture as much as possible of the market without allowing passenger slip into cheaper fares than are willing and able to pay. For this reason, as you pay less you will have more restrictions imposed upon you through the rules of the fare. Airlines will allow the customer to purchase certain fares in advance of the flight date or force to spend a Saturday in the destination before coming back[45] or require spending a minimum time or allowing staying up a certain period in the destination. These restrictions try to differentiate between various passenger demands and offer more flexibility and fewer restrictions with higher fares. Yield management system use also the class structures restrict fares with certain seat numbers so that the whole aircraft is not sold with low fares leaving no room for higher fares. In European flights, there might be up to 20 classes, which are used to differentiate the passengers, depending on the destination and season. Furthermore, due to the strength of the airline in the market, there might price differences between the both

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[43] Economy fare in this definition is unrestricted yearly economy fare.
[44] ibid, 282

ends of a route. For a journey between London and İstanbul lowest fare is 301USD/round trip, where as the lowest for the same journey starting between İstanbul and London 329 USD/round trip (based on Turkish Airlines fares published on Travelocity (www.travelocity.com).

## 4.6. Charter

OECD[46] defines charter operations as follows:

"Nonscheduled (or charter) services: Flights performed for remuneration on an irregular basis"

In reality, many charters operate with a schedule and it is very difficult to differentiate a charter operation from a scheduled operation at the first instance for a passenger. Charters mostly cater to leisure traffic and heavily operate to the most tourist destination. Their operational pattern fit with the flow of leisure traffic. Condor, a German charter company that is part of Lufthansa group, will heavily operate to Mediterranean region and its surroundings during summer, and in winters to Asian tourist destination in Thailand, Malaysia and Maldives. Some regions like Egypt and Tunisia may be served by charters year around with varying intensity, depending on the season. Charters can compete with scheduled airlines on leisure routes or routes where there are excessive fluctuations of demand which cannot be covered by the scheduled airlines. The major difference with

[45] Sunday rule: This rule restricts the usage of these fares by businessman.
[46] The Future of International Air Transport Policy(1997). Organization For Economic Co-operation and Development, Head of Publications Service: Paris, 144

scheduled and charter airlines lies how their flights are marketed and sold.

A scheduled airline will promote market and sell its flights through its network of sales offices, travel agents, while charter airlines will sell the whole or part of the flight through a contract to travel agents and other tourism companies; it is up to them to market and sell the flight to the individual consumer. Most Charter companies have no sales office network with the exception of the few, which have a limited number of sales offices to market leftover seats that could not be sold through contracts to travel agencies, and their sales forces task to gain contracts to fly groups to destinations that the tour companies and travel agents promote. According to these sales, the charter companies will plan their flight schedule for the next season, so a charter airline performs only the flights, which it has sold or been paid for. Charter airlines are not burdened with large sales networks, the uncertainty of the unsold seats and other cost associated with such sales networks (i.e. reservation and yield management system). Also they do have lower in-flight catering cost because charter do not operate with the first class or business cabin passengers and they keep their flight service and cabin crew to the bare minimum. A study issued by the UK Civil Aviation Authority[47], charter airlines cost are % 34 to % 37 of a scheduled airline:

[47] Doganis, R.S. (1991), Flying off Course: The Economics of International Airlines, London: HarperCollins, 190

Table 4.7. Cost of Charter Operations

| | Charter Adjustment to scheduled cost | Cost Index |
|---|---|---|
| *Total scheduled cost per pax* Assuming 55% load factor | | %100 |
| 1 *Charter cost saving:* No sales commission | % - 8 | %92 |
| Higher aircraft and crew utilization (assumed 25% higher) | % - 3 | %89 |
| Lower charter 'standards' (i.e. lower landing fees, fewer cabin crew, lower handling and in-flight standards) | % - 6 | %83 |
| Cost not applicable (i.e. no sales, reservation or advertising; low overheads; higher bar sales) | % - 15 | %68 |
| Higher charter peak/through ratio ( - increases fixed element of aircraft operating and station costs) | % + 4 | %72 |
| 2 *Higher charter seating density:* Elimination of first class | % - 6 | %66 |
| Higher seating density | % - 9 | %57 |
| *3 Higher load factor:* Assumed 85% on charters | % - 21 | %36 |
| Derived charter costs as % of scheduled | | %36 |
| Actual charter costs 1975/6 as % of scheduled | | %34-37 |

Source: UK CAA



Although some detail assumptions on this research may have changed, yet the basic ones are the same. The charter operators are in advantageous position compared to scheduled operators; however this position invites a lot of competitions, since there are very low entry barriers to charter market, and this drives the prices down. The scheduled airlines tried to match up against charter airlines

in two ways by either introducing the concept of group fares and special rates which match charter rates to travel agents or by operating charter companies of their own. As deregulation becomes effective, the distinction between charter and scheduled airlines blurs even more.

## 4.7. Cargo

Airline industry as a whole earn about one third of their revenues from cargo[48]. The approach to cargo changes widely from one airline to the next one. Some large airlines give major importance to cargo and even develop independent subsidiaries like Lufthansa Cargo, a subsidiary of the Lufthansa Group into all-cargo airlines, in order to cater to the demands of the cargo costumers. For majority of the airlines, the cargo operation is a minor operation or an added-revenue stream, which is a by-product of their passenger operations. This view comes from the nature of cargo, supplied to the market today. Majority of the cargo is carried in the belly-hold the wide-body passenger aircraft like Boeing 767, Airbus 340 and Boeing 747. This fact allows the airlines to consider cargo as an additional income stream to cover the cost of regular passenger service and not a service of its own right. Also characteristics of cargo make it hard to justify additional investment to create profitable cargo service that is more than just carrying cargo with your passenger service. Cargo's characteristics differ in many ways from the passenger service:

- Cargo traffic is one directional unlike passenger traffic, which goes in one direction, then returns to its origin.
- In cargo market, on time delivery and cargo rates are the major deciding factors.
- Traffic flows between markets are very unbalanced almost one-way in some situations.[49]
- Cargo customers unlike passengers do not care how the cargo gets there, as long as it gets there.[50]
- Cargo requires special handling like delivery of the shipment to the airport and preparation of necessary technical and legal documents to clear customs, unlike the passenger side.

Creating a profitable cargo service requires extensive investment in all fields of the cargo operation, which many airlines are not prepared to realize in the faces of heavy competition from the integrated carriers. Integrated carriers like DHL, UPS and Federal Express are providing a total product, including pick-up and delivery, transportation, customs clearance, paperwork processing, computerized tracking, and invoicing. These integrated carriers can also provide for a delivery in a specified period of time.

Cargo costumers have varying expectations from the cargo service. Some of them ship perishable goods like food and

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[48] ibid, 316

[49] ibid states: "On major freight routes it is common to find that traffic in the densest direction is twice or almost twice as great as in the reverse direction, as is the case on the Hong Kong to Frankfurt or the Bangkok to Hong Kong routes... The absence of assured return loads creates marketing and pricing problems which are unique to the cargo side of the industry."

[50] For example, a cargo shipment from Los Angeles to İstanbul can get to İstanbul either via Frankfurt to İstanbul on Lufthansa, via Chicago to İstanbul on Turkish Airlines or via Hong Kong to İstanbul on Cathay Pacific.

flowers. Such customers expect careful handling and on time delivery of the cargo. Other costumers demand emergency service or transportation of ultra-valuable goods. Such shipments prefer air transportation for its speed and security, but in return they require special handling and availability of cargo space on demand. Third category in goods shipped through air cargo is high value goods like silicon chips like CPU, RAM etc, electronic goods, or textile and machinery parts. These goods are shipped because their values justify air transportation, as they are very time-sensitive. Others are shipped as part of Just in Time (JIT) production method allowing companies to have flexibility and lower inventory costs.

Cargo pricing is a very difficult issue for the airlines. Cargo tariffs are based on weight and volume since cargo space in an aircraft is limited both in tonnage and volume. Goods with lower density have a penalty on tonnage that can be carried on the aircraft, therefore on potential revenue. Airlines tariff are established on weight basis with penalties for lower density goods. Shippers get discounts, if their cargos exceed certain weight thresholds[51]. For airlines, the difficulty on establishing cargo tariffs lies in separating and assigning cost levels for belly-hold cargo. Considered as a byproduct of passenger, marginal cost of cargo service is very low and heavy competition from integrated carriers and other airlines push the airline tariff and yield to a low level. In the cargo sector, there are a number of middlemen who consolidate and forward the cargo to the airlines. They receive commissions and lower freight rates from the airlines for cargo, shipped through that airline. Wholesalers buy cargo

space at lower rates and market this space to the end-customer. Cargo yields do get siphoned heavily also through these middlemen. In today's climate, cargo departments and airlines have to plan carefully and act cautiously to survive the ever-falling yields in cargo sector.

[51] These thresholds are for freight over +45 kg and +100 kg for Turkish Airlines.

## V. History of Liberalization in Air Transportation

Transportation including air transportation sector was marked from the foundation of European Economic Area as important sector to be integrated into the European Economic Area and later into the single market concept. Even, though other sectors in the transportation field were integrated into these two concepts. Air transportation was handled as special sector requiring unanimous decision of the European Council to come under the jurisdiction of European Economic Area and the single market. This special status was accorded due to approach taken by the member states to the air transportation field.[52] This approach of the member states kept European Union out of the air transportation sector until mid-1980s when the wave of liberalization in the US aviation sector had hit European shores. United Kingdom and Netherlands both liberalized their air transportation sectors by mid-1980s and pushed European Council for European wide-liberalization with heavy resistance coming from France, Italy and Germany. The former two countries found a familiar ally in pushing liberalization through European Council: European Court of Justice. The European Court of Justice can be classified as politically active court as was US Constitutional Court under Chief Justice Warren's tenure. European Court of Justice usually decides in favor of European Union in case which would help European Union to expand its powers over member states. In the "Nouvelles Frontières" case, the court decided that competition rules have been applied to air transportation sector. This decision broke the deadlock and the opposition of the above-

mentioned member countries to the creation of a single market in Europe. The European liberalization model will follow a different path than in the United States in liberalizing its air transportation sector.

## 5.1. Liberalization in the United States

Liberalization of the aviation sector started in the mid 1970's and was completed mostly by the end of 1978. Up to 1978, Civil Aeronautics Board (CAB) decided which airlines would serve which routes and how many times a day. CAB also approved fares and regulated exits and entries. CAB, established in 1938 by the Civil Aeronautics Act, classified airlines according to the routes which the airline served and air services, they provided. Accordingly, airlines serving major cities on medium and long distances are designated as trunk lines, while airlines serving small cities over medium and short distances as local service carriers. Other airline classifications included all-cargo carriers and charter carriers. CAB decided how many airlines could operate on certain routes and airlines must seek CAB's permission to exist from a route that the airline is operating. Fares were also tightly regulated where CAB regularly conducted investigation on fares, as the last one, lasting 4 years [Domestic Passenger Fare Investigation started in 1970 and was concluded in 1974], has been concluded just before the liberalization of the industry was decided. All these restrictions were gradually lifted and CAB eventually was dissolved in 1982.

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[52] Zebinsk, 9

Today to operate in the US domestic market, what an airline needs to obtain is only a certificate of fitness from Department of Transportation (DOT). The Result of this liberalization process has become a rise in the number of airlines operating in the US domestic and international markets but this rise was followed by a period of consolidations between airlines starting mid-1980. A number of airlines considered major players like PAN AM and Eastern Airlines went bankrupt or were bought out by their competitors. Many Airlines founded after liberalization, either went out of business or became incorporated into networks of major airlines through franchising or outright mergers. Many of the previously independent regional operators became integrated into the network of major airlines as either franchisee airline or subsidiary of the major airline. Major Airlines started to consolidate their services on their hubs cutting back on services outside their hub that they were forced to operate by the CAB regulation. Major Airlines began slowly to dominate their hubs by performing most of the flights out of the hub airport. As Wall Street Journal[53] reported in 1987:

"Now most of the traffic is handled by one of carrier: Trans World Airlines. Having driven back or acquired its major rivals, TWA today enjoys a degree of dominance here that any airline would have envied prior deregulation. Its 317 departures a day dwarf those of its nearest rival, Southwest Airlines, which has 22 . . . In fact, at 15 of the nation's top airports, either half the business is already controlled by one carrier, or two share more than 70%."

In Pittsburgh Airport, USAir and USAir group carried 89% of the passengers in 1991, while in Atlanta, one of the top three Airports in the United States and the hub of Delta

[53] O'Connor, William E. (1995) An Introduction to Airline Economics, Westport, Connecticut: Praeger,

Airlines, 84% of airline passenger going this airport traveled with Delta Airlines. American Airlines, United Airlines, Delta Airlines, Northwest Airlines, Continental, USAir, TWA and Southwest Airlines are the major airlines in the United Airlines. With the exception of Southwest Airlines, all these major airlines have their networks, designed around the hub and spoke concept. This concept has even an effect on the passenger flow from other countries to the United States. Northwest Airlines' main hubs are Detroit and Minneapolis. Northwest Airlines has a long-standing alliance with KLM where both airlines feed each other's hubs. KLM and Northwest perform scheduled daily services between Amsterdam - Detroit and Minneapolis. Between Amsterdam - Detroit, as of Summer 2001 scheduling season, Northwest and KLM had 5 daily flights departing from Amsterdam at 8:00, 10:40, 13:55, 16:40, 18:40 (all the flights are operated by Northwest Airlines as part of KLM/Northwest Airlines joint venture) [54]. The percentage of local traffic carried on these routes is very low and these routes are supported by transfer traffic that KLM and Northwest collect in their hubs. In the commercial sense and according to passenger demand between Netherlands and the United States, Amsterdam - Minneapolis and Amsterdam - Detroit would not justify a direct operation, but both carriers' close cooperation and hub - spoke system allow such operations.

Since early 1980's with liberalization of domestic air transportation market, Department of Transportation (DOT) started to propose "Open Skies"[55] agreements to many countries with which it has substantial passenger traffic. Hussein Kassim describes the DOT's Open Skies as such:

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[54] Retrieved: 11 August 2001 www.travelocity.com.

"...The USA's new foreign aviation policy introduced a number of innovative concepts and practices to designation, granted fifth freedom rights, incorporated non-scheduled services which were permitted unlimited freedoms, removed capacity restrictions, and introduced a system of double disapproval for fares under which tariffs became operative unless both governments expressed disapproval."

The "Open Skies" agreements were offered to those countries in non-negotiable form. Even though the parties cannot negotiate over the content of the agreement, the agreement can be introduced in phases over a time-agreed period. The content of the agreement was very liberal in all senses. It lifted the restriction on capacity, frequency and points that can be served in both countries. Code-Sharing and third party Code-Sharing were introduced and unlimited fifth freedom traffic rights were also allowed behind respective countries. "Open Skies" agreement between two countries furthermore also allows for multiple designations of airlines by both of them. On the cargo side, "Open Skies" granted similar rights to Cargo transportation and airlines as the passenger side. "Open Skies" agreements provided DOT to assign formerly only domestic carriers like Delta and American Airlines international routes into the countries with "Open Skies" agreements. "Open Skies" introduced some competition on well-traveled routes, but in cases most competition came in the form of third country code-sharing, due to rise in the number of Airline Alliances.

"Open Skies" agreements helped to create a general wind of liberalization in the whole air transportation sector. This liberalization wind manifested itself as relaxation of ownership rules (mainly through privatization), change in

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[55] Kassim pp. 110

rules regarding market (liberalization of domestic markets), "Open Skies" or more liberal agreements between Countries other than US. "Open Skies" coupled with this liberalization wind gave rise to Airline Alliances. Airlines created alliances for two purposes to access markets (increase revenue) (mainly U.S. domestic markets) and cost savings through consolidation of some function. Most immediate benefits to an alliance come from the increased market access or exposure to new markets. An alliance with an American carrier provides access to North American (United States of America, Canada) market, world's largest protected (cabotage) air transportation market. DOT gave anti-trust immunity to an alliance, if only the countries of member airlines signed the Open Skies agreement. Normally, anti-trust issues and the right to issue anti-trust immunity lays with the Department of Justice but when the CAB was dissolved, its responsibilities including the power relating anti-trust immunity for air transportation sector was transferred to DOT. According to DOT policies, airline alliances form an important tool for industry consolidation in the restricted world of bilateral Air Service agreements. DOT encourages the development of airlines alliances and is more supportive of them than European Union is. As long as the consumer rights are protected at a certain level, DOT will grant anti-trust immunity to most alliances. Open Skies agreements brought liberalization of U.S. domestic market to the international market for U.S. carriers. In terms of air transportation, it made liberalization of ASA (**A**ir **S**ervices **A**greement) acceptable to most states. And throughout the 90's, liberalization was the direction taken for air transportation as a sector.

Since the Chicago convention, United States played a leading role in shaping the future of air transportation sector. Today, she shares this role with E.U. In December 1999[56] DOT invited major players in the aviation field to a conference to celebrate the 50th year of the Chicago Conference and discuss the future of air transportation sector as a whole. DOT stated in this conference through various speakers that it would continue on the path of liberalization through gradual extending of open skies agreements. DOT also planned to accelerate the liberalization of air transportation sector by trying to create multilateral agreements that will extend open skies philosophy to regional basis and sometime in the future to the world. As part of this initiative, USA and Brunei, New Zealand, Chile, Singapore signed a Multilateral Open Sky Agreement on November 15th, 2000. In this conference, Mrs. Loyola De Palacio[57], a vice president of the commission, proposed the U.S. side Transatlantic Common Aviation Area (TCAA) in order to liberalize the air transportation market between the U.S. and E.U. to fullest extent. TCAA[58] is a very extensive proposition that also touches into such areas like cabotage and ownership rules. TCAA drew some criticism on last two issues especially from U.S. labor interests and mixed reviews from the major airlines in the U.S.

One can state with ease that liberalization in U.S. benefited major domestic airlines like Delta Airlines and American Airlines with their big domestic networks and Major U.S. international Airlines like PAN AM, Eastern Airlines and TWA were the losers. Today, none of above-mentioned airlines

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[56] "Aviation in the 21st Century – Beyond Open Skies" December 5-7, 1999 Chicago

[57] Loyola de Palacio del Valle-Lersundi, Vice-President, Relations with the European Parliament, Transport & Energy

[58] More in the detail will be introduced in sections relating to E.U.

exist where the other Airlines went bankrupt and their routes where taken over by former domestic carriers. Liberalization of air transportation pushed a consolidation of the industry in the United States and created the biggest airlines in the world. In 2000, 7 out of 10 top airlines ranked by Passengers carried where US airlines (in ranking order) [59]:

1.Delta
2.American
3.United
4.Southwest
5.US Airways
6.Northwest
8.Continental

In domestic U.S. market, the competition's character changed form route basis to network. Prices have dropped on many destinations but DOT has concern on competition in the hub cities of the airline, where competition is limited by the nature of the hub and spoke system. International markets, competition shifted from route basis to a mixture of network and alliance competition where U.S. airlines rely on their partners to distribute the traffic beyond their respective hubs in Europe. Prices have decreased and competition is very lively, though creation of alliances has restricted competition on some routes where an alliance has market domination like One-World alliance domination of London Heathrow Airport and Atlantic Excellence (Delta - Swissair) on routes between Switzerland and United States. Recently, CEO of American Airlines complained on the effects of Alliance competition before creating One-World. He stated that Delta - Swissair cooperation in Switzerland market

[59] ATW Research

forced American Airlines to discontinue its services due to domination of this market by Delta - Swissair. Overall, the effect has been the creation of a competitive environment, where choices for the U.S. passenger have risen considerably.

## 5.2. Early Efforts regarding Aviation in ECC, EC

Air transportation was one of the fields that European Union wanted to integrate into the Common Market, but never able to do so thoroughly until 1990s. The roots for integration of European Aviation precede European Union and its predecessors and go back as far as 1934[60]. The efforts since World War II started before the conclusion of the EEC (**E**uropean **E**conomic **C**ommunity) treaty, in 1957. A few proposals, regarding an organization of European civil aviation were submitted to the Council of Europe.[61] None were successful. Following the conclusion of the 1957 treaty in 1960-1961, the Commission and the European Parliament, probably motivated by private sector, put forward two documents[62] on Air Transportation, which afterwards did not turn out to be a great success. It was at the end of the transition period of the EEC Treaty, in 1970, that the Commission took a major initiative in the field of air transport. In June 1970, the Commission transmitted to the

[60] Some resolutions regarding civil aviation were put forward by the "Pan European Economic Conference", see (1934) IV Revue Aéronautique Internationale at 389

[61] Three plans were submitted to the Council of Europe: the "Bonnefous" plan, the "Vander Kieft" plan and "Sforza" plan (the most ambitious), see (1951) XIV Revue Générale de l` Air at 359-372.

[62] Memorandum 51/61 of the Commission on the "General Lines of a Common Transportation Policy" of 10 April 1961 and the Report 107 of Corniglion Molinierto, Rapporteur to the European Parliament. See also the Memorandum of the Council on "The Applicability to Transport of the Rules of Competition set out in the EEC Treaty and on the Interpretation and Application of the Treaty in Relation to Sea and Air transport" of 12 November 1960.

Council a Communication (presented officially in the form of a Declaration), proposing a series of measures in air transport. The intention of the Commission was to proceed rapidly to a complete transfer of national authority in the air sector to the European institutions. The main interesting point in this communication was that the Commission proposed to integrate both the intra and the extra - Community side of Air transport. Among the series of measures put forward, it was mentioned that the Commission would examine with member states and airlines the traffic rights between member states and non-member countries, as well as international cooperation in aeronautical matters.

On 30 June 1972, the Commission submitted to the Council a proposal for a Council decision, pertaining to the first element of a common action in air transportation[63]. The European Parliament gave its opinion on the Commission's Proposal in the "Noe Report".[64] In this report, the European Parliament recommended that air transport competence should be transferred from Member States to the Community, and that cooperation regarding relations between airlines and third countries should be encouraged.

The Economic and Social Committee gave its opinion on the Commission's proposal in the "De Grave Report"[65]. The Economic and Social Committee considered that there was a need to develop a common policy regarding relations with non-member countries. The "Noe Report" and the "De Grave Report" denote a particular conception of the problem of aeronautics

[63] Commission Proposal for the development of intra-EEC and extra-EEC air services and for the coordination of tariff policies, Doc. COM(72), 675 final in OJ No L 110 of 18 October 1972 at 6.
[64] Noe Report, European Parliament, Word Doc. 195/72 of Sess 1972/73 P E 30 at 248 def Doc. 195/72 and 328/72.
[65] "Dé Grave Report", published on 27 February 1973, Doc. R/CES/75/73.

in Europe and show an ignorance of the social consequences of the recommended measures as well as of their political and legal environment (in particular the existence of international regulation in air transportation sector). None of these initiatives led to concrete measures, or neither were they well received by the member states. In view of this failure, the commission decided to call upon the ECJ.

The Commission did not seek to benefit from the judgment of the ECJ (**E**uropean **C**ourt of **J**ustice) in case 167/73 but instead adopted a more flexible and realistic approach by seeking the collaboration of the governments and the airlines. It is important to note that while adopting this new approach the commission still proposed at that time to integrate simultaneously the intra and the extra-Community side of air transportation.

The 1975 Action Plan[66] for the European Aeronautical Sector (or "Spinelli Report") established the principle that the Commission has, parallel to the implementation of the general rules of the Treaty, to implement a CTP (**C**ommon **T**rade **P**olicy), on the basis of Article 84(2). This policy would have two general objectives. The first would be, in close cooperation with member states and airlines, to create a European air space regulated at a Community level, and rights. Among the actions to be implemented, the "Spinelli Report" recommended that links should be set up with international organizations such as ICAO and ECAC.

The 1976 Communication (or "Scarrascia - Mugnozza Report") [67] added that relations with ICAO and ECAC should be

[66] The Action Plan for the European Aeronautical Sector. Doc COM(75) 475 final of 1 October 1975.
[67] SEC (76) 2466.

based on Article 229 of the EEC treaty and proposed an exchange of letters to this end.

On the basis of this more flexible and realistic approach the Council decided, in June 1977, to launch the process of applying the EEC treaty to air transportation sector. However, this process needed a push in the right direction, which came from the Commission with the Civil Aviation Memorandum No 1.[68]

In this document the Commission sought to create a debate on the contents of a Common Air Transport Policy (CATP) among the institutions of the Community, and to propose certain specific actions in order to improve the scope for better air transport services in Europe.

The Commission's approach was prudent: comparison with deregulation in the U.S. was rejected and the proposed actions had only a positive impact on air carriers. There were few proposals in this Memorandum regarding action on air transportation sector's external relations. It was only mentioned that the Commission, which had signed cooperation agreements with ECAC and Eurocontrol, would endeavor to improve its cooperation with ICAO. In addition, the commission announced its intention to deal with international organizations and developments in relations between member States and third countries in air transportation.

The Civil Aviation Memorandum No 1 was the subject of a relatively favorable reception by the other Community

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[68] The Civil Aviation Memorandum no 1 (1979) "Air Transport: A Community Approach", Com(79) 311 final of 06 July 1979, Bulletin of European Community, Suppl. 5/79.

institutions, the airlines and the users committees, but the labor unions and ICAO were more critical.

The purpose of the Civil Aviation Memorandum no 2[69] was to propose an overall framework for air transport in the Community and to describe the measures that the Commission intended to take. In the Memorandum, an important policy decision was taken. The Commission stated in Chapter III of the Memorandum that a system, which will be used to regulate air transportation between member states of the community, would not be suitable for regulating relations between member states and third countries. For this reason, the Commission proposed to concentrate on air transportation between the member states. It is the first time that the decision to concentrate on the intra-Community side of air transportation has been clearly and firmly taken. The White Paper on the internal market,[70] presented by the Commission to the European Council of Milan on 28-29 June 1985, stressed the need to complete the internal market and to give high priority to the issues pertaining internal Community matters. In the field of transport, the White Paper underlined the importance that the Commission attached to implementation of CTP, which entered as one of the top priorities to be implemented.

[69] The Civil Aviation Memorandum no 2 (1984) 'Progress towards the Development of a Community Air transport Policy", COM(84) 72 final of 15 March 1984.
[70] Commission's White Paper of 14 June 1985 on the Completion of the internal Market, COM(85) 310 final, para. 108 at 9.

## 5.3. Air Transport Packages

The development of a common air transport policy did not commence until the mid-1980s. A majority of the member states were opposed to EEC action. They had no desire for the diminishing of their autonomy nor did they see the use in creating a further forum for regulating aviation, particularly when other dedicated, experienced and more inclusive bodies existed. However, this deadlock was broken in the mid-1980's by the decision of the European Court of Justice in "Nouvelles Frontiéres" case that the competition rules did apply to the air transportation sector and initiated legal proceedings against EC flag carriers for their alleged infringement of Community competition by the Commissioner for competition. The outcome of all these proceedings was the adoption of the first air transport liberalization package in December 1987, which represented the first major step in the development of the common air transport policy. The liberalization of the Community's air transport policy has had the greatest impact on the state's autonomy. It has advanced in the form of market building, market regulating and market strengthening measures. Rather than imposing a new EC-wide regime, the first two packages aimed to liberalize the provisions relating to capacity, market access and tariff setting of existing bilateral agreements, rather than abruptly introducing a new multilateral system. The first package obliged national authorities to grant traffic rights to carriers on international routes where traffic surpassed a particular threshold. A zonal system on the MOU[71] model was introduced

[71] MOU – Memorandum of Understanding

for tariffs, whereby discount or deep discount fares, falling within a particular range were to be considered approved

Table 5.1. EU and Air Transportation Packages

| **Licy** | **Chicago Regime** | **First Package** | **Second Package** | **Third Package** |
|---|---|---|---|---|
| ces | Agreed by both governments | Zonal system: automatic approval of discount and deep discount and deep discount fares within defined range | Zonal system extended: conditions on availability of discount fares relaxed | Airlines set own fares; safeguards for excessively high or low fares |
| censing | National rules | No change | No change | EU criteria fo ownership, air worthiness and economic fitness |
| cess | | | | |
| relations between ates and own clines | Governments full discretion | No change | No change | Subject to EU regime |
| relations with reign airlines | Negotiated bilaterally | Subject to EC rules | Subject to EC rules | Subject to EU regime |
| multiple signation (country country) | Negotiated bilaterally case by case | Yes under EC rules | Yes under EC rules | Yes under EC rules |
| multiple signation (city irs) | Negotiated bilaterally | Automatic above defined thresholds | Thresholds lowered | Full access allowed |
| safeguard ovisions | | | Provisions for regional development | Provisions for regional development |
| Fifth freedom | Rarely | Permitted for 30% traffic per annum | Permitted for 50% traffic per annum | Permitted without quota constraint |

| | | | | |
|---|---|---|---|---|
| abotage | Never granted | No change | No change | Full cabotage rights under E regime from 1 April 1997 |
| acity | Generally 50:50 | 55:45 %; then 60:40 | 60:40, plus additional 7.5 % per annum | No limits, but safeguards can be triggered |

Table 5.1: (continued)

The December 1987 package included a regulation, which fulfilled the competition rules of the EEC Treaty in air transport, as well as a regulation allowing the Commission to grant block exemption from these rules for certain specified activities. These latter measures enabled airlines to continue to cooperate in the areas where the consumer would benefit and made it easier for companies to adjust to market pressures.

The regulation of state aid is essential for the creation of a genuinely competitive market in air services, since liberalization might otherwise trigger a "subsidy race", producing anti-competitive effects. The Commission, which enjoys considerable power under Articles 92-94 of the European Economic Community (EEC) Treaty with regard to state aid, had hitherto adopted a flexible approach. Under Article 92 (3) of the EEC treaty, member states are obliged to inform the Commission of any intention to grant state aid. When a case is referred to the Commission, it decides whether the government, in awarding the capital injection, loan, guarantee or concession, has acted, as a private investor would have done under normal market principles. The Commission has taken pragmatic decisions in the cases, which it has treated so far:

Air France (1991, 1992, 1994), Sabena (1991), Iberia (1992), Aer Lingus (1994), Olympic Airways (1994) TAP (1994),

The Commission required that the state aid in question forms part of a restructuring package and it should be granted on a "one time, last time" basis, and that the government should distance itself later from intervention in the management of the company concerned. The Commission has taken the general view:

"... that although its 'aim is to create a level playing field from 1993 ... some airlines carrying the financial burden of the past must have the chance for a fresh start, provided that this does not adversely affect the situation of competitors"[72]

Also Commission has acted to eliminate market-distorting factors in newly created Common Aviation area. In consultation and close co-operation with ECAC, the Community introduced a code of conduct to regulate what is being displayed in computerized reservation systems (CRS). CRSs are powerful marketing and ticket distribution tools mainly used by agents and airlines. The Commission took action in regards to airports' landing and take-off slots[73], which were in very high demand in the most congested airports of Europe. For example, all the airports in London (Heathrow, Gatwick, Stansfeld and Luton) and Frankfurt Airports are all slot-constraint. In external relations, EU's achievement in extracting this power has been limited to instances where member states extended the authority to negotiate on behalf of them to EU. Until now, EU has conducted negotiations or concluded agreements on air transportation with EFTA

[72] CEC 1992b: 3

[73] Slot is the right assigned to an airline by the related authority to land or takeoff at an airport at a specified date and time.

countries, Switzerland[74], Ten Central and Eastern European countries (Poland, Latvia, Estonia, Lithuania, Czech Republic, Slovenia, Slovakia, Bulgaria, Romania, Croatia), Cyprus (Representing only the southern part of Cyprus.) and Malta. EU has the right to negotiate on some air transportation issues with the U.S. but these do not include hard rights such as traffic rights, capacity, designation and fifth freedom designation. The Commission consistently asks European Council to have full negotiating rights with U.S., which the European Council has denied, to the Commission. The Commission has long contended that commercial aviation relations with third countries form a part of the Union's commercial policy for which the Commission has exclusive competence[75]. However, the overwhelming majority of member states opposes the Commission on both grounds, and hold that the negotiation of bilateral agreements should remain a national responsibility and that insurmountable practical difficulties would beset attempts by the Community to negotiate on behalf of the member countries.

The third Package was the final package that led to Common Aviation Area for EU. This package entered into force on January 1st, 1993 and had following legislations in it:

- Common rules on the licensing of air carriers, laid down in Council Regulation (EEC) No 2407/92 (OJ L 249 of 28.08.1992)
- Rules on access for Community air carriers to intra-community air routes, laid down in Council Regulation (EEC) No 2408/92 [COM (94) 218 final];

[74] Both negotiations are successfully concluded. Agreements with Switzerland were ratified only after a referendum in 2001.
[75] CEC 1990b

- Rules on fares and rates for intra-Community air services, laid down in Council Regulation (EEC) No 2409/92;
- Full application of the competition rules of the Treaty to the liberalized air transport market in accordance with Council Regulation (EEC) No 3975/87 and (EEC) No 3976/87.

In a report to the Council in 1996, the Commission has following conclusions on the effects third package on European air transportation market:

"... the findings are sufficient to show that the liberalization process is producing a significant number of positive results without the instability that some may have feared. Market access possibilities are being used. New routes and services are being created. Market access possibilities are being used. New routes and services are being created. On some of the most heavily traveled routes, new entrants are bringing competitive pressure to bear on traditional duopolies. Indeed the number of European companies offering regular service is increasing substantially and most are now privately owned. The market share of the dominant so-called flag carriers has also fallen noticeably. The charter market continues to grow. Alliances and partnerships are being formed. Carriers have taken advantage of new opportunities. After several loss-making years, most carriers regained their profitability in 1995. As to fares, on average prices are beginning to fall, with particularly notable reductions where more than two carriers are competing on the same route. The full liberalization of cabotage in 1997 should give further impetus to the process."

On the other hand, as yet, many routes continue to be served by monopolies or duopolies and in those circumstances significant consumer benefits have not appeared... full potential of the internal aviation market is constrained by limitations on access to the ground handling market, producing high costs and inadequate service and is also

affected by the diverse bilateral arrangements maintained between Member States and third countries. Finally, while the development of alliances and partnerships may in part be positive, it also involves the risk of, if taken too far, limiting competition to the disadvantage of the consumer."

Since this statement, the environment of created by the third package has not changed much. One major airline (Sabena of Belgium) has gone out of business and some are in serious financial trouble like Olympic Airlines (Greece) and Alitalia (Italy). The last two years saw great consolidations in the air transportation sector either in the form of new alliances or mergers. The number of simple service and low fare airlines has increased but they still serve limited areas. Most of these airlines like Easy Jet, Virgin Express serves major metropolitan areas of Europe only. Fares have dropped to lower levels but not as much as the Commission would like them to drop. Commission has become more concerned about increase of Alliances in number and size and their effect on competition.

DG Competition has begun vigorously to pursue cases against the Alliances, especially on the Trans-Atlantic market. Commission's concern on the Alliances is that they reduce the competition route basis where Alliance partners are the dominating parties on the route (for example hub to hub routes like Madrid - London, Frankfurt - Stockholm, London - Helsinki, Amsterdam - Milan or Rome). Commission has put several proposals to increase competition in these routes but these proposals got considerable opposition from the airlines and alliances. Alliance counter-argued that in the Common Aviation Area, the competition is not route-to-route basis but network-to-network basis between Alliances.

Since the resignation of the Commission in mid 1999, there have been some major changes in the view of the Commission towards the Industry. The Commission's approach is more positive towards to the industry. The Commission, wholeheartedly, welcomed the industry's proposal under the name of Transatlantic Common Aviation Area and even put it forward as a European proposal in the conference in Chicago. The Commission's current policy aims could be sum up as to gain the right to negotiate on behalf of all member states on air transportation issues. The Commission sees US as the most important country in this respect; therefore there has been constantly applying pressure on the Council to get this right. With the backing of the industry, the Commission might be able to achieve this right. On the other fronts, the Commission was about to conclude agreements with ten Central and Eastern European countries during 2000 in order to include them in the CAA (**C**ommon **A**viation **A**rea)[76]. It has started to negotiate with Cyprus and Malta and hopes to start negotiation with Turkey on the ascension to CAA. It is apparent that the Council is willing to give the Commission the right to negotiate on behalf of member countries and EU with a third country as that country is part of the EU's expansion process.

## 5.4. Competition in European Union

Competition in European Union could be classified into three subsections:

[76] Interview with Fredrick Sørenson, October 5, 1999, Brussels, Belgium.

- Internal: competition between airlines
- External: competition between air transportation and other modes of transportation like sea, road and rail
- International: competition between European Union airlines and foreign airlines

Internal competition in European Union could be considered heavy in some accept whereas in some local market or for some part population is not as dense as desired. Competition between major destinations is quite heavy but consolidation in scheduled carriers has created areas where competition is difficult to establish. Scandinavian region and Germany – Austria market are good examples of these holes in the competition. Carriers of Star Alliances[77] (Scandinavian Airlines - Lufthansa, Austrian Airlines - Lufthansa) dominate these markets. Further consolidation will only further weaken competition. Early 1990's at the introduction of the Third Package, Commission had predicted that consolidation will happen but at the same time during this process, consolidating airlines will start to compete on domestic and intra-union routes that could not compete previously.

European Union was half right in its predictions but it did not foresee that large airlines would use this consolidating and liberalization process to strengthen their hubs instead of operating on these routes. Major airlines decided not to spread out their resources into different parts of Europe to compete with other airlines but instead acquired regional carriers by either buying them out or in

[77] Star Alliance consist of the following airlines: Lufthansa, United Airlines, Singapore Airlines, Air Canada, Air New Zealand, ANA, Austrian Airlines, British Midland, Lauda, Tyrolean, Mexicana, Thai Airways, Scandivanian Airlines, Varig (source: www.staralliance.com) retrieved on 24 February 2002

cooperating them into their network through strategic alliance including franchising. At the same time, European Union predicted that new airlines would establish themselves and create competition against the established airlines. This process started to happen latter than the European union predicted and was not spread out through out the Union. England, Spain, Italy and Greece have competitive air transportation markets whereas Germany, France, Scandinavian region still lack competition and the airlines, which try to enter to the market, have very difficult time against the major airlines of these regions (Lufthansa, SAS, Air France). Since the introduction of the Third Package, British Airways tried to enter both French and German Market but it failed totally in French market and sold its investment to Swissair. British Airways had little more success in German Market with Deutsche BA even so Deutsche BA was never a profitable operation and once again it is currently trying to define a new role for itself. Also Deutsche BA never came close to breaking Lufthansa's hold on German Market. Recently, well-documented struggles of Ryanair against Lufthansa show that, 10 years after the Third Package, German market is difficult to penetrate. Since 2000, LCC are becoming a major competitor of scheduled airlines on some routes but mostly these routes are concentrated between United Kingdom and rest of European Union.

Together with September 11$^{th}$ crisis and global economic downturn, LCC competitive edge grew even more and expansion into other parts of European Union seems imminent. Regarding intra-union competition, Commission faces two conflicting choices, both of which justify its support. Currently, major European airlines are considerable smaller than their U.S. counterparts. World's top 4 four airlines product wise, are

U.S. airlines. Their large domestic market with a heavy reliance on air transportation gives U.S. airlines very strong advantage in competition with European Airlines because of the largely protected domestic market. Production wise, four of top five airlines are U.S. airlines and British Airways; the only European Union carrier is ranked fifth beyond United, American, Delta and Northwest. The trio of United, American and Delta Airlines produced last year around %50 more than British Airways. Considering that these figures include effects of September 11th terror incident, the gap might have been quite larger. The list of top ten airlines is actually more striking in this manner:

Table 5.2. Airline Rankings by RPK's

| | | |
|---|---|---|
| 1. | United Airlines | 187,603,870 RPK[78] (000) |
| 2. | American | 174,387,534 |
| 3. | Delta | 156,616,219 |
| 4. | Northwest | 117,659,592 |
| 5. | British Airways | 105,131,000 |
| 6. | Continental | 98,373,148 |
| 7. | Lufthansa | 86,695,000 |
| 8. | Air France | 85,489,200 |
| 9. | US Airways | 73,932,017 |
| 10. | Qantas | 72,351,000 |

Source: Air Transport World, April 2002

The combination of top two European Union carriers catches up with the top U.S. airlines. In the face of international competition, merger between European Union

carriers are justifiable and will not reduce competition but internally, these mergers mean reduction of competition. European Union carriers is willing and promoting the merger of major European Airlines but this process is slowed down by the requirements of the competition concerns. European Union competition authorities see a merger between two large airlines or large airlines and a regional carrier as mergers that eliminate competition on local markets. Due recent liberalization and cost factors, airlines do not take full advantage of liberalization and compete head to head with the established carrier, which are former flag carrier of that member country. Recent co-operations in the form of alliances, especially Star Alliance, have created areas where lack of competition is very visible like Scandinavia and Germany or Austria and Germany. Elimination of competition is a natural side product of consolidation activity in the European Union but this process also counter-reacts with another important aim of liberalization: increased competition. To reach this goal, European Union aims to give competition more access to capacity-strained air transportation infrastructure of Europe. Also, European Union tries to keep a watch full eye on the predatory activities of the flag carriers and tries to support LCC and other competing carrier by leveling the playing field. LCC's seem to bring the type of competition that European Union has been looking for. Even though, LCC are currently growing at a very high rate like %25 on a yearly basis, but they still represent %10 of total number of passengers carried. The progress of these carriers is very quick but not sufficiently and evenly distributed, as the European Union would prefer.

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[78] Revenue Per Kilometer

European Union will face this dilemma for while until LCC grow and expand to mainland Europe. Until that day comes, European Union will have to jungle the interest of stronger air transportation sector and the need for increased competition.

External competition from other modes of transportation is heavy in European Union unlike U.S.A. due to several reasons. First, European Union has roughly 1/4 of United States land mass but slightly larger population size, so the population wise European Union is quite denser. The distances are shorter making alternative modes of transportation quite competitive. In U.S.A., distances are quite longer and in the western U.S. except the coastal areas population densities are quite low. The longest flight time in Europe would be not longer than 4 hours on destinations like Helsinki - Madrid or Athens - London whereas Los Angeles - New York is a 6-hour flight. Also distances and lack of investment on the alternative modes of transportation in U.S. did allow other modes of transportation either lose their importance in the passenger transportation sector or newer gain any prominence. In European Union, shorter distances and investment of public authorities allowed other modes of transportation to flourish. In Continental Europe, high-speed train service is a very real competitor to air service and links many major cities of Europe. In United States, high-speed rail services exist only on the northeastern part of the country between Boston - Washington D.C. On the coastal areas of European Union, there is considerable ferry activity especially between English Isles and France, English Isles - Ireland, Denmark - Sweden and Italy - Greece, but these service only compete on the point to point traffic and on very short distances. Also ports where these services are

offered are in many cases some distances away from the major population centers. Bus service in Europe is not mentioned as an alternative to air transportation and is competitive in short distance what could be termed as local and regional transportation markets.

High-speed rail service offers the most competitive position against air transportation. Traveling with an average speed of 250 to 350 km per hour, it is fast to enough to compete with railroads on distances under 1500 km or so which far enough to cover distances between many major cities in European Union. High-speed rail service requires still very sizable investment in order to create a Pan-European high-speed rail service network where as this network is complete for air transportation. Sea transportation needs technological and infrastructure investment in order to compete with air transportation service. On the technology side, production of high-speed ship that can travel up to speeds of 200-250 km/h is necessary. Infrastructure side, more investment on ports where vehicles and people could be loaded and off-loaded quickly is necessary. Competition in European Union to air transportation does exist but it is limited in nature. Commission's White Paper has the stated aim of increasing this competition so in 2010 a revaluation of this situation might be necessary.

International competition to European Union Airlines could be termed as heavy but European Union carriers do handle it very well although deficiencies do exist. In general, European Airlines do have very good quality of in-flight and fly with good frequency to non-European destinations. In contrast to many Asian Airlines, European airlines do perform better regarding conveniences and

frequency and have a better service image than the most Asian Airlines. On the other hand, there are three or four Asian airlines like Singapore Airlines, Cathay Pacific and Emirates, which offer excellent service in every part of the cabin and exceed European Airlines in field.

In Africa, European Airlines do dominate the market due to the weak competition of their regional counterparts. African Airlines are viewed unreliable in all fields of operations including safety due lack of capital and qualified personnel, which gives big advantage to European Union airlines.

In Australian market, the real competitions is between Asian airlines and European Union Airlines because most European airlines stopped operating directly to Australia and cooperate either with an Asian or Australian airline to reach the Continent. So, the true competition on Australian market is between airline alliances, especially Star Alliance (Lufthansa, Thai, Singapore and Air New Zealand) and One World (British Airways, Qantas and Cathay Pacific) or Asian airlines carrying $6^{th}$ freedom passenger via their hub in Asia (Malaysia Airlines, Emirates and Gulf Air).

In American continent, the market could be divided in two sections: north and south. South American market is less developed of the two markets. Due ethnical and historical reason, carriers from Portugal and Spain have more service to South America than other European Union airlines. Most of the middle sized airlines in European Union offer limited service to this continent and only major airlines in cooperation with their alliance partners come close to coverage offered by Spanish and Portuguese carriers. In

terms of service and quality, European airlines are usually a notch better than their South American counterparts. The reason for this difference lies in access to the capital and also due the economic situation in South America.

In North America, competition is not just heavy between American carriers but also very heavy in between European Airlines. The air transportation market between North America and Europe is one of most contested markets in world. European Airlines do compete in line with their alliance partner because, for true access and a complete product in North American market, European Union airlines need a partner in North America. On the other hand to major destination North America like New York, Chicago and Los Angeles, the competition is not just from alliance but also from mid-size carriers. New York - Europe could be defined as one of the most contested markets in the world. In terms of service quality, European Union Airlines viewed having the better product due to importance of this market whereas domestic service are more relevant for North American carriers and this market has less weight in their operations. Due to large frequent flyer programs and "Fly American" program of U.S. government gives American Airlines some leverage over their European Union counterparts.

In overall competitive situation, European Union is very competitive against the rest of world but it lacks size and the mass of their North American counterparts. To reach this size and mass will require consolidation in the air transportation without losing internal competition. LCC's and alternative modes do provide some compensation for the loss of competition due to consolidation but whether they

will be sufficient when full consolidation starts, is a question that European Union has yet to answer.

# VI. Turkey

## 6.1. History of Turkish Civil Aviation

Turkey has been actively involved in the civil aviation sector since its early days before World War I. French - Romanian Aviation Company (CIDNA) started first, commercial service to Turkey between Bucharest and İstanbul in 1922. In September 9th, 1925, the first civil aviation regulation was passed based on the principles of 1919 Paris Convention. In 1933, Rome Convention was accepted and later in 1944 Chicago Convention was also signed. On May 20th, 1933, Law number 2186 established the State Airlines (predecessor of Turkish Airlines)[79]. The airline was established with the purpose of developing air transportation between Turkey and other countries. In 1955[80], Turkish Airlines replaced State Airlines and became national carrier of Turkey. At the same time, Turkish Civil Aviation Authority (SGHM[81]) was established under Ministry of Transportation. The Law put the mission of the new institution as extension of air transportation to the whole nation and provision of frequent and regular international air service with the highest standards of safety under international rules. There are two other state institutions that operate in the field of civil aviation. State Airport Authority (DHMİ[82]) is responsible for the administration of all airports under state authority.

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[79] Devlet Hava Yolları
[80] Law 6623 dated 21.5.1955
[81] Sivil Havacılık Genel Müdürlüğü
[82] Devlet Hava Meydanları İşletmesi Genel Müdürlüğü

Railway, Ports and Airports Construction Authority (DLH[83]) is responsible for the construction new airports and provide the necessary aeronautical equipment for the operation of the airports. From its infancy, aviation as a sector has been under the realm of the state enterprises until the liberalization wave of 1980's. Liberalization allowed private commercial airlines to be established and operated domestic and international routes. Investors were quick to take advantage of the opportunity. The main market that attracted these new commercial airlines was ethnic and tourist market in Europe.

## 6.2. Current Composition of Air Transportation Sector

The passage of civil aviation law (law number 2920) on 14 October 1983 opened the new era in the Turkish air transportation sector. The monopoly of Turkish Airlines was lifted and any legal entity or person could offer air transportation services for numeration as long as the requirements in the civil aviation law were fulfilled. It took time for the establishment of private carriers. Once established, they undeniable played an important role in the growth of Turkish air transportation sector. They also faced major problem as they tried to establish themselves in a low-income market, where the demand for air transportation was highly seasonal and concentrated into couple regions in Europe. They faced shortage of experienced and trained personnel and had to deal weak finances. Many failed because

[83] Demiryolları, Limanlar ve Hava Meydanları İnşaatı Genel Müdürlüğü

they could not deal with these conditions like Toros Airlines to İstanbul Airlines[84]

As these airlines became established in the late 1980's, two trends helped them to grow. First one was the growth of tourism in Turkey with the heavy and planned investment in this sector by public and private sector which created a high demand for air transportation for the summer season (May to Early October). Second reason is the change in the travel pattern of the Turkish immigrant workers. Until late 1980's, Turkish ethnic population traveled via land through Balkan countries to Turkey. The rising income of the ethnic population coupled with the unrest in Balkans and raises in highway fees collected by Balkan countries made air transportation much more attractive than land transportation. Also new airlines entering into the market operated on the charter basis and introduced lower fares than Turkish Airlines in order to establish themselves in the market. Turkish Airlines was the only carrier thoroughly catering to this population group until the establishment of these new carriers.

Although other foreign airlines made moves into these markets due to its size and ethnicity issue, Turkish carrier always took the lion share of the market. This market is like tourism market has its peak period in the summer. It is actually shorter than tourist season, because most of the Turkish ethnic population takes its holiday on the same time as rest of the Europe does. July and August are the peak months for this type of traffic, and the traffic diminishes

[84] Source: DPT report by the sub-committee on aviation. The actual list is quite long and consists from these 19 airlines: Toros Airlines, Talia Airlines, Tur Avrupa Airlines, Akdeniz Airlines, Bosphoros Airlines, Boğaziçi Airlines, THT, Sunways Airlines, GTI Airlines, Haliç Airlines, Tayfun Air, Green Air, Nobel Air, Birgen Air, Holiday Air, Sultan Air, VIP Air, İstanbul Airlines.

very fast to lower passenger volumes. Since the liberalization, the seasonality of these traffic flows caused considerable difficulties for the private airlines. Many airlines have ceased to operate or changed owners several times.

Turkish private airline operators' business strategy seems to make most of their income during summer season and lower capacity to cater to the demand available in terms of outgoing tourism (Outgoing tourism is a business terminology used to refer Turkish tourists traveling out abroad) from Turkey during winter. This policy has worked for some airlines. Many airlines lost out due to fluctuations in the market (especially tourism) and poor financing (like being leveraged by debt and leasing of aircraft). Also lack of sound financing led many airlines to choose the quick way of earning revenue. Turkish private airlines can be critized in several other ways. None of them truly tried to develop a brand name or image. Their image locally and abroad is poor. They are seen as unreliable, low quality. They tend to misrepresent their services and frequently cancel or combine services without proper warning. For example, an airline might advertise for Paris - Istanbul - Paris and Basel - İstanbul - Basel service and combine these two services into a single flight (Basel - Paris - İstanbul). None of private airlines is a member of IATA or clearinghouse or developed scheduled services.

In domestic market, only Istanbul Airlines, which later went bankrupt also, performed regular services on some destinations but the number of destinations, frequency was nowhere close enough to compete with Turkish Airlines. In domestic sector, some preference is given to Turkish Airlines

due to its social duties. In 1996, a official communiqué from Ministry of Transportation states that private airlines can fly domestic scheduled service to any destination freely as long as they also fly to less developed regions of Turkey (Southeastern Anatolia and Eastern Anatolia regions) like Turkish Airlines. Domestic operations usually require smaller aircraft which turnaround quicker and perform higher frequency in the form of Regional jets and turbo props rather than Boeing 737 or Airbus 300 and 321 which most of Turkish private carriers have in their fleet. On international sectors, although private airlines are price leaders in the market, but yet infrequent and unreliable services prevent them from being effective in the market. Istanbul Airlines was the most successful of these private airlines until to last year with a fleet of 20 planes and regular service to most European cities. Other major private airlines would be Onur Air, Air Alfa and Pegasus.

### 6.3. Competition in Air Transportation Sector

Competition to aviation sector and inside aviation sector in Turkey differs very much from European Union. The reason for these differences is various but the major one's could point out easily as level of income, development other modes of transportation and geography. The interplay of these differences creates a very different picture in Turkey regarding competition in aviation.

Internal competition is regional and spotty. In Western Europe, competition is heavy but comes from different type of

carriers. Scheduled carrier do compete to some extent but Turkey currently has only one scheduled carrier and from most European countries only one carrier flies to Turkey. Turkish airlines and other schedule carrier compete with each other in price sometime but most of the time, the competition boils down to schedules. Another point in regarding the competition between scheduled carriers is that all the European carriers including Turkish Airlines are members of IATA and AEA. So scope for unofficial cooperation is quite large and any competition on price between these airlines is matched quite easily since the competitor airline is aware of the price either through public channels like public advertisement and CRSs or through travel agents who want similar prices from them.

Also scheduled carriers are usually strong on their home-markets, the need and desire to compete with Turkish Airlines in its home market is not that strong with the exception of Lufthansa. Lufthansa provide some exception to this rule due its size and large network not just in Turkey but also around the world. Lufthansa has more services and cover more destinations than any foreign carriers serving Turkey. Lufthansa flies to İstanbul, Ankara and İzmir with 8 daily flights. This capacity and destination selection allows to a price leader in the market and influence behavior of Turkish Airlines. The other airlines can match this influence to the above-mentioned factors. Other major European scheduled airlines usually serve one destination (İstanbul) and usually with 2 daily flights. This also has the effect of limiting the most of the competition to İstanbul. Rest of Turkey can only have limited competition. It should be also noted that foreign scheduled carriers have

to use Turkish Airlines domestic flight in order to bring their passenger to their flight from İstanbul.

In Western Europe, charter carriers bring a very heavy competition in price but schedule and quality of service competition is missing in this form of competition. Charter carriers do not have as their name suggests as fix or heavy schedule as scheduled airlines. This fact excludes most business traffic from using charter carriers as an alternative to scheduled carrier. Also, charter carriers' main customers are tourist groups; therefore tourist destinations. Charter carriers do not also provide same level of service as scheduled carriers regarding before and after flight service. These carriers do not give refund guarantee or inform passenger prior the flight regarding schedule changes as often as the scheduled carriers. The charter carriers do not have very convenient schedule and their schedules are very strong in the summer period but considerably weaker in the winter period. They usually fly late in the evening or very early in the morning. Charter carriers do not offer a very good competition against the scheduled carriers except that Turkish market is very price sensitive and low prices of charter carriers make attractive to Turkish passengers.

Rest of Europe (Central and Eastern), scheduled carriers and charters carriers do provide price competition but quality and reliability of these carriers are not in the same level of Turkish Airlines and Turkish private carriers. Their product is more oriented towards to their home market not for the Turkish market. Turkish carriers including Turkish Airlines do have difficult time in penetrating these

markets due protective attitude of the governments of these regions.

North America market is very competitive both out of Turkey and North America. Main competition comes from 6th freedom carrier in Europe like Lufthansa, KLM, Air France, and British Airways. Turkish private carriers cannot compete on this market due to lack of long-range aircraft. Turkish Airlines flies directly to two points in North America: New York and Chicago. Its competitors in Europe do fly many more destinations from their hub than Turkish Airlines. Passengers can reach with a single convenient connection many more destinations than they can with Turkish Airlines via New York and Chicago. Also many European airlines including Turkish Airlines do have code-share partners[85] in U.S. through which they reach many major and secondary North American points where they do not operate directly. For example, Lufthansa reaches through its partner United Airlines around 200 destinations in U.S. even though it only flies directly to 14 or so destinations from its hubs[86] in Germany. Turkish Airlines also code-shares with American Airlines in order to reach 20 destinations in U.S. but only operates to directly two destinations. A healthy and heavy competition does exist year around for North American market.

Competition for Asian destinations is less to some extent due number of airlines marketing this region from Turkey. For major foreign airlines do market this region: Emirates, Singapore Airlines, Malaysian Airlines and Gulf Airlines. Singapore and Malaysian airlines have extensive networks in the region where as Emirates and Gulf Airlines

[85] A form of cooperation where an airlines puts its code and markets a flight eventhough its is being operated and also marketed by another airline.

serve only major destinations in Asia. Turkish Airlines serves major destinations in Asia: Bangkok, Singapore, Kuala Lumpur, Beijing, Shanghai, Seoul, Tokyo and Osaka. Bangkok and Singapore are the most competitive markets out of Turkey due tourism and trade potential. In these markets, Gulf region carriers are price leaders but their limited schedules to Turkey do limit their effectiveness. In the other Asian markets, Turkish Airlines do not face heavy competition neither from domestic private carrier as they rarely or never do operate any of the above-mentioned Asian markets and European carriers are geographically disadvantaged in this market. Also most the demand for air transportation comes from the Asian end of the market where the market and the demand is regulated.

In other market like Turkey - South America, Turkey - Africa and Turkey - Australia, the demand and the potential of these markets with the exception of North Africa does not justify any direct service. In North Africa market, the demand lies in North Africa side and is based mainly on baggage trade. The air transportation market is heavily regulated by the North African states, which usually defend the interest of their national carrier very vigorously. Turkish Airlines has a competitive edge over these airlines due to its quality of service and wider network but heavy regulation do prevent Turkish Airlines using these advantages to the full extent. In Australian market, competition does exist on the Australian side via Asian carriers like Singapore Airlines, Malaysian Airlines or by Gulf region carriers like Emirates and Gulf Air. The same could not be said for the Turkish side due the weak demand for travel to Australia either due the distance or cost. For Australian

[86] Lufthansa's international hubs in Germany are Munich and Frankfurt.

market, Turkish Airlines partners with Qantas Airlines and serves this market via mainly Bangkok and Singapore where Qantas provide the link between these points and Australia. Turkish Airlines is not in a dominant position in this market due lack of an online service to Australia; therefore not very effective in controlling its product.

In domestic market, Turkish Airlines does not have currently any competition. Turkish Airlines has extensive domestic network serving 26 cities in Turkey. Major domestic destinations have direct service to İstanbul and Ankara, but minor domestic destinations are served via Ankara, where Turkish Airlines has established a domestic hub. Turkish Airlines has extensive service to all the major destinations in Turkey. Between Ankara - İstanbul, Turkish Airlines operates a shuttle service, between İstanbul - İzmir, eight to six daily flights and between İstanbul - Adana three daily flights. Destinations like Trabzon and Diyarbakır have two daily flights to İstanbul. All the flights serve as feeder flights to Turkish Airlines international network and cover the domestic demand for air transportation. Turkish Airlines, as government policy, do operate to less developed provinces of Southeastern Turkey as social service. Against this backdrop, private Turkish carriers will have a difficult time competing against Turkish Airlines for several reasons.

First of all, duplication of Turkish Airlines' extensive domestic network is difficult and expensive task and considering income levels in Turkey a second network or even Turkish Airlines' current domestic network is sustainable. Pure domestic traffic flows are very susceptible to the performance of Turkish Economy and move easily to other alternative modes of transportation in time of economic

slowdowns. Also, as mentioned previously, private carrier's fleets are suitable for mid-range dense charter operations, which is not ideal for domestic operations.

On the other hand, Turkish government's interest in domestic air transportation does lie with increased competition but with the establishment of extensive domestic air transportation network. In line with this policy, it has been tacitly supporting Turkish Airlines by requiring private carriers which want operate domestic scheduled services that fly also to Southeastern Turkey. Private carrier did try to operate domestically but they never matched Turkish Airlines level of service or wide network. Also economically for private carriers, domestic operations were not attractive because earning were in Turkish lira whereas they earned in U.S. dollars which was also the currency in which most of their costs were calculated. Also, Turkish Airlines offered heavily discounted rates to military, senior citizens and student due to its social service role, which also made providing domestic service unattractive for private carriers. Only public complaint about Turkish Airlines domestic monopoly has been regarding its prices or when it has announced price hikes. Rest of the time, there is no general push for greater competition in air transportation sector.

Competition to Turkish Airlines domestic monopoly comes externally from other modes of transportation. Most important competitor to air transport is naturally road transportation which carries % 90 of passenger and cargo in Turkey. Bus service in Turkey is frequent and higher quality than its counterparts around world. Some bus companies do even come close to matching Turkish Airlines quality of service like Varan and Ulusoy. Widespread availability of

reliable bus service is closely linked with the infrastructure investment of Turkish government during the last 25 years on road network. Today, it is quite possible travel between Ankara and İstanbul under four hours by car and 6 hours by bus, which is very competitive with flying between this city pair. In most of other city pairs, air transportation would have a clear advantage except the price. Price between road and air transport is quite large depending to the bus company between 6 to 10 fold and air transportation has still luxury image and will be only used most of the population for emergencies or when their personal economic conditions are good.

Rail transportation has been very much neglected in Turkey. With the exception of several situations, rail transportation is not competitive with road or air transportation. Rail transportation has still advantages in the carriage of bulk cargo like coal and other raw materials. In passenger transport with exception of some regional and local market, it is not competitive either against road or air transportation.

Domestic sea transportation is not developed in Turkey. With exception of one instance, sea transport does play a role in passenger transportation. That exception is İstanbul Municipalities high - speed service between İstanbul and Bandırma. This service is rare instances where intermodality comes into play. Sea transport plays only an important role in the carriage of bulk commodity cargo in the international trade.

Over all Turkey has mixed record on competition in air transport. International competition does exist to varying

degrees from other carriers but not from other modes of transport except in cargo. Domestically, the situation is reversed competition exists only with other modes of transportation but not with other carriers. The main and close to sole competitor is road transportation but it competes mostly on price and not convenience or quality of service. This lack of competition is also supported through state policies regarding domestic air transportation network.

## VII. European Union and Turkey

European Union is for Turkey its largest international air transportation market. European Union destination has most flights and most of capacity of Turkish Carriers is dedicated to European destination. European Union represents Turkey's largest trading and tourism partner and aviation helps to strength this link. Due to this strong link some major European Union cities like Frankfurt, Amsterdam, Munich, Paris and London are easier to reach by air form İstanbul than some domestic destinations in Turkey. Every Turkish carrier including Turkish Airlines sees European operations as the backbone of their company. Due this importance, integration with European Union and naturally ECAA will be a major question for next ten years.

In its current status, Turkish air transportation sector is competitive against its European Union counterparts but it faces capital and other above-mentioned problems in this competition. If these problems are not solved in the long run, Turkish air transportation will have difficult time in keeping up with the competition. It currently relies mainly on two streams of traffic, which are very seasonal. There is a definite need for diversification for Turkish carriers because most of them compete for the same markets and with almost identical products. The current economical situation does not allow for Turkish carriers to compete on anything but price and these markets, but the circumstances will change and markets will develop. In the past, Turkish carriers have not been very successful in coping with market

conditions as the long list of collapsed and bankrupt Turkish carriers' shows.

Regarding competition and a possible future in ECAA for Turkish air transportation sector, one has also to evaluate the role of Turkish Airlines and the state. Currently the dominant force in Turkish aviation is Turkish Airlines. It represents slight more than half of Turkey aircraft fleet and it is the only Turkish carrier, which has long-range and regional aircraft. With exception of Sunexpress airlines, a joint venture between Lufthansa and Turkish Airlines, Turkish airlines is the only carrier operating on scheduled basis domestically and internationally. Even though, it does not receive officially state-aid but it is % 98 state-owned and receives regular capital injections from the Turkish government. Also, its aircraft purchases or leases are backed by guarantees of Turkish treasury. Also, it receives favorable treatment from the government due the social services and international representation role, which it performs but never, receives compensation for these services. Under ECAA, first two issues will fall under state-aid and would be forbidden after third package as anti-competitive. Regarding social services, ECAA rules require that provider for these services should be determined through a transparent and competitive bidding process. Publicly, Turkish private carriers seem to accept this special role for Turkish Airlines and do not demand similar treatment or discontinuation of this treatment. On the other hand, Turkish private carrier do request for state subsidies in other fields like landing fees and fuel prices.

Eventually in the process of joining European Union and its natural extension in the field of Aviation, ECAA, all

these current practices will be evaluated in the light of ECAA rules. As ECAA rules currently stand, most of these practices have to discontinue or modified according ECAA rules. Effects of these changes are hard to measure but, if the changes of ECAA brought to European aviation sector are any measure, results will be mixed. Turkish Airlines will gain its commercial freedom but lose some state subsidies and see some cost rise, but at same time, Turkish Airlines will be able to lower its costs related to its social service obligations. Private carriers will be able to compete on even basis with Turkish Airlines and on markets where they could not compete with Turkish Airlines. At the same time, their costs will rise slight as it will have operate under a more restricted environment than the current one. In ECAA, Turkish Airlines will maintain its strong position both domestically and internationally like Lufthansa, Air France and Alitalia did but will slow face more competition not just international sectors but also domestic sectors. For private Turkish carriers, ECAA will mean increased access to capital and new markets in which they could easily compete with low cost structure of Turkey.

As I have summed up in the previous sections, both Turkish and European air transportation market are liberalized to most extend but developments have differed in those two markets. Turkish air transportation market has some restrictions on the domestic market unlike CAA, which has none. Even though as I believe these restrictions are not the reason for lack of competition in the domestic market rather lack of innovation, desire and business planning on the part of the private airlines that has caused this. On the other issues, they are very similarly liberal. The real question that lies in front of us is: In which direction

will Turkish Civil Aviation sector go in 21st century? Currently, EU and U.S. are moving from restrictive, bilateral agreements to liberal, bilateral agreements to liberal, multilateral agreements whose shape will be determined in the next 20 years or so. For the rest of the world, the movement for liberalization is weaker, but in the same general direction as EU and US. Considering that, EU and U.S. represent 2/3 of world's air transportation market; we can assume that these general trends put Turkey at crossroads to decide where it wants to go. Turkey's relation with EU and US[87] are in a very liberal footing in aviation sector with the exception of Italy, which seems to be solved with resolution of the Airport crisis in İstanbul and Milan. Turkish charter companies can operate without restriction to most European cities and other destinations. Turkey has reached to its limits with its current bilateral agreements.

Since the liberalization of 1980's, Turkey has one of the larger aviation sectors in the Mediterranean With the exception of Italy, France and Spain and Middle East. Turkey formed sizeable aviation sector, which creates sizeable employment, not only in the air transportation sectors, but also in tourism and other related sectors. Turkish aviation sector although viable and underdeveloped, lacks capital, commercial and operational know-how to expand its markets and develop its geographical advantageous position. From Europe, İstanbul is an excellent transfer point to Middle East, Central Asia and Far East with the exception Australia, from Middle East, Central Asia and Far East to America and Europe. Currently only Turkish Airlines' schedule is designed to take advantage of this situation but as stated above Turkish airlines lacks capital to take fully advantage of this

[87] Signed Open Skies agreement with US on April 2000.

situation. Also in the near term most of the countries west of Turkey will enter into CAA under the leadership of EU as discussed before. In order to break out of reliance on the Turkish ethnic population and seasonal tourism circulation, Turkish aviation sector needs capital, commercial support and wider access to other markets, since Turkish air transportation market is small even though hold a large promise for the future, but that future lays somewhat far out distance. In order for population to choose air transportation over alternative transportation means, it has to be affordable and available to population (which not the case yet) and the GNP/per person has to rise above certain level. GNP/per person depending the methodology used changes from 3000 USD to 5500 USD, which is well below EU levels. Turkish private airlines will not be able to rely on the development of domestic traffic for the next 10-20 years in order to grow and compete they will to have to expand either to new markets or expand the scope of the existing markets.

As stated before, neither of these options is possible under the existing bilateral system as they are too restrictive and do not create the right environment for capital flow. Further growth for the Turkish aviation sector can be provided only in more competitive environment than the current one. Today solely, CAA can provide such a competitive environment for the Turkish aviation sector, which has faced stiff competition with the limits of bilateral agreements system up to now and proved that it can withstand, and also provide reasonable, effective answer to this competition. With reasonable adjustment period, it can survive inside CAA and flourish to become more competitive, so that provide world-class service.

I think it is vital for Turkish Aviation sector to join CAA in order to keep its current position and be on leading edge of civil aviation, because CAA and TCAA will be the future of the aviation sector as a whole. Earlier Turkey joins these "Common Areas", the benefits that it will gain will be much more comprehensive.

# APPENDICES

# APPENDICES 1

## Turkish Commercial Air Carriers, Airports in Turkey and Cargo Volume

| lame Air Carrier | | | | | | | Total Capacity |
|---|---|---|---|---|---|---|---|
| Company Name | License | Aircraft Type | Number of Aircraft | Registration Sign | Number of Seats | Total Seats | Aircraft |
| ürk Hava Yolları A.O. | Domestic and International scheduled and non-scheduled transportation of passenger, cargo and mail | Boeing 737-400 | 14 | JDF, JKA, JDG, JDH, JDT, JDY, JEN, JEZ, JEO, JER,JET,JEU,JEV, JEY | 150 | 2100 | 68 |
| | | Boeing 737-800 | 26 | JFC, JFD, JFE, JFF, JFG, JFI, JFR, JFP, JFM, JFN, JFL, JFK, JFJ, JFO, JFT, JFH, JFU, JFV, JFZ, JFY, JGA, JGB, JGC, JGD, JGE, JGF | 155 ve 165 | 4190 | |
| | | Boeing 737-500 | 2 | JDU, JDV | 117 | 234 | |
| | | Airbus A310-304 | 4 | JDV, JCY, JCZ, JDA | 210 | 840 | |
| | | Airbus A310-304 | 2 | JDB, JDC | 182 | 364 | |
| | | Airbus A340-300 | 7 | JDK, JDL, JDM, JDH, JIH, JII, JDJ | 271 | 1897 | |
| | | RJ-100 | 9 | THA, THB, THC, THD, THE, THG, THM, THO, THH | 99 | 891 | |
| | | RJ-70 | 3 | THN, THJ, THI | 79 | 237 | |
| | | BELL 430 | 1 | HTA | 5 | 5 | |
| üneş Expres Havayolları A.Ş. | Domestic, International scheduled and non-scheduled transportation of passenger, cargo and mail | Boeing 737-700 | 2 | SUE, SUF | 148 | 296 | 7 |
| | | Boeing 737-800 | 4 | SUA, SUB, SUC, SUD | 155 | 620 | |
| | | Boeing 737-300 | 1 | SUK | 149 | 149 | |
| egasus Hava Taşımacılığı | Domestic and International non-scheduled transportation of passenger, cargo | Boeing 737-400 | 8 | APR, APT, APD, APP, AFA, AFM, AFJ, APC | 170 | 1360 | 22 |
| | | Boeing 737-800 | 14 | APF, APM, APN, APG, APY, APL, APH, APK, APZ, APV, APU, API, APJ, AAP | 189 | 2646 | |
| ıter Ekspress Hava Taş. A.Ş. | Domestic and International non-scheduled transportation of passenger, cargo | Boeing 737-800 | 2 | IEA, IEB | 177 | 354 | 2 |
| nur Havayolları A.Ş. | Domestic and International non-scheduled transportation of passenger, cargo and mail | Md 88 | 5 | ONM, ONN, ONO, ONP, ONR | 172 | 860 | 14 |
| | | Airbus 321 | 2 | ONS, ONJ | 220 | 440 | |
| | | Airbus 300-103 | 5 | ONL, ONK, ONU, ONT, ONY | 337 | 1685 | |
| | | Airbus 300 600R | 2 | OAA, OAB | 315 | 630 | |
| lfa Havayolları A.Ş. | Domestic and International non-scheduled transportation of passenger, cargo | Airbus 300 B4-103 | 1 | ALS | 318 | 318 | 3 |
| | | Airbus 320-212 | 2 | ABG, ABH | 174 | 348 | |
| ıbrıs Türk Hava Yolları Ltd. Şti | Domestic and International scheduled and non-scheduled transportation of passenger, cargo | Airbus 310-200 | 2 | JYK, JCO | 230 | 460 | 5 |
| | | Boeing 737-800 | 3 | MZZ, MSO, MAO | 177 | 531 | |
| ir Anatolia Havacılık A.Ş. | Domestic and International non-scheduled transportation of passenger, cargo | Airbus 300-103 | 1 | GTA | 323 | 323 | |
| | | Airbus 300-200 | 2 | ONV, ANI | 310 | 620 | |
| | | Boeing 737-400 | 2 | ANL, ANH | 170 | 340 | |
| | | Boeing 757-200 | 2 | ANN, ANM | 228 | 456 | 7 |
| NG Havayolları Taşımacılık A.Ş. | Domestic, International scheduled (cargo) and non-scheduled transportation of passenger, cargo | Airbus 300-203 | 5 | MNA, MNB, MNC, MND, MNG | KARGO | - | 8 |
| | | Airbus 300-203 | 1 | MNE | 309 | 309 | |
| | | Boeing 737-400 | 2 | MNF, MNH | 160 | 320 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ürkuş Hav. Tic. A.Ş. | Domestic and International non-scheduled transportation of passenger, cargo | MD 83 | 4 | FBD, FBB, FBG, FBT | 165 | 660 | 4 |
| k-Ay Hav. Taş. A.Ş. | Domestic and International non-scheduled transportation of passenger, cargo | Boeing 737-400 | 3 | SKA, SKB, SKD | 160 | 480 | |
| | | Boeing 737-800 | 1 | SKC | 189 | 189 | 4 |
| las İnternasyonel Havacılık A.Ş. | Domestic and International non-scheduled transportation of passenger, cargo | Boeing 757-200 | 3 | OGA, OGB, OGC | 219 | 657 | 3 |
| y Havayolları | Domestic and International non-scheduled transportation of passenger, cargo (mail) | Airbus 300 B4-200 | 1 | FLA | 310 | 310 | 1 |
| osphrus Avrupa H.Y. Turz. Ve Tic. A.Ş. | Domestic and International non-scheduled transportation of passenger, cargo (mail) | A300B4 | 3 | COA, OIM, OYC | 309 | 927 | 3 |
| ource: SHGM | | | 151 | 0 | 6896 | 27046 | 151 |

Turkey's Cargo traffic (domestic + International) in tonnes

| Year | Domestic | International | Total |
|---|---|---|---|
| 1994 | 151.400 | 340.310 | 491.710 |
| 1995 | 171.552 | 405.368 | 576.920 |
| 1996 | 182.476 | 470.089 | 652.565 |
| 1997 | 212.000 | 579.780 | 791.780 |
| 1998 | 209.488 | 516.422 | 725.910 |

Source: DHMİ

# APPENDICES 2

## Entry and Exit to Turkey

| Exit and Entry to Turkey | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Air | | Rail | | Road | | Sea | | Total |
| | (000) | % | (000) | % | | % | (000) | % | |
| 1973 | 386 | 29 | 55 | 4 | 387 | 29 | 514 | 38 | 1342 |
| 1974 | 295 | 27 | 70 | 6 | 425 | 38 | 320 | 29 | 1110 |
| 1975 | 355 | 23 | 84 | 5 | 769 | 50 | 332 | 22 | 1540 |
| 1976 | 489 | 29 | 87 | 5 | 734 | 44 | 366 | 22 | 1676 |
| 1977 | 422 | 25 | 95 | 6 | 751 | 45 | 393 | 24 | 1661 |
| 1978 | 878 | 59 | 34 | 2 | 539 | 36 | 47 | 3 | 1498 |
| 1979 | 850 | 55 | 39 | 3 | 587 | 38 | 58 | 4 | 1534 |
| 1980 | 312 | 24 | 99 | 8 | 454 | 35 | 423 | 33 | 1288 |
| 1981 | 366 | 26 | 86 | 6 | 546 | 39 | 407 | 29 | 1405 |
| 1982 | 395 | 28 | 53 | 4 | 579 | 42 | 365 | 26 | 1392 |
| 1983 | 543 | 33 | 76 | 5 | 563 | 35 | 443 | 27 | 1625 |
| 1984 | 684 | 32 | 43 | 2 | 883 | 42 | 507 | 24 | 2117 |
| 1985 | 868 | 33 | 54 | 2 | 1170 | 45 | 523 | 20 | 2615 |
| 1986 | 965 | 40 | 54 | 2 | 931 | 39 | 445 | 19 | 2395 |
| 1987 | 1419 | 49 | 65 | 2 | 846 | 29 | 575 | 20 | 2905 |
| 1988 | 2142 | 50 | 68 | 2 | 1328 | 31 | 725 | 17 | 4263 |
| 1989 | 2347 | 52 | 77 | 2 | 1327 | 29 | 764 | 17 | 4515 |
| 1990 | 2566 | 48 | 145 | 3 | 1929 | 36 | 757 | 14 | 5397 |
| 1991 | 1748 | 31 | 117 | 2 | 3190 | 57 | 496 | 9 | 5551 |
| 1992 | 3005 | 42 | 76 | 1 | 3310 | 47 | 711 | 10 | 7102 |
| 1993 | 3550 | 54 | 41 | 1 | 2150 | 33 | 782 | 12 | 6523 |
| 1994 | 3974 | 59 | 61 | 1 | 1824 | 27 | 834 | 12 | 6693 |
| 1995 | 5179 | 67 | 52 | 1 | 1631 | 21 | 884 | 11 | 7746 |
| 1996 | 6239 | 72 | 91 | 1 | 1360 | 16 | 921 | 11 | 8611 |
| 1997 | 7041 | 72 | 97 | 1 | 1573 | 16 | 851 | 9 | 9562 |
| 1998 | 6384 | 68 | 114 | 1 | 1822 | 16 | 1111 | 12 | 9431 |

Source: TÜRSAB

| Airport | Yearly Aircraft Capacity | Yearly Passenger Capacity | Service Hours |
|---|---|---|---|
| Atatürk | 350.400 | 22.500.000 | 24 hours |
| Esenboğa | 236.520 | 5.150.000 | 24 hours |
| Adnan Menderes | 183.960 | 4.600.000 | 24 hours |
| Antalya | 262.800 | 9.000.000 | 24 hours |
| Dalaman | 183.960 | 7.600.000 | 24 hours |
| Adana | 105.120 | 2.200.000 | 24 hours |
| Trabzon | 52.540 | 1.500.000 | 24 hours |
| Milas-Bodrum | 122.640 | 2.600.000 | 24 hours |
| S. Demirel | 43.800 | 600.000 | 24 hours |
| Nevşehir-Kap. | 26.280 | 700.000 | Depending on the schedule |
| Bursa | 17.520 | 150.000 | 24 hours |
| Çorlu | 96.360 | 600.000 | 24 hours |
| Erzurum | 17.520 | 300.000 | Depending on the schedule |
| Gaziantep | 17.520 | 620.000 | Depending on the schedule |
| Kars | 8.760 | 1.000.000 | Depending on the schedule |
| Kayseri | 26.280 | 600.000 | Depending on the schedule |
| Samsun-Çarşamba | 26.280 | 2.000.000 | 24 hours |
| Sinop | 8.760 | 150.000 | Depending on the schedule |
| Van | 17.520 | 1.200.000 | Depending on the schedule |
| Adıyaman | 8.760 | 300.000 | Depending on the schedule |
| Ağrı | 8.760 | 120.000 | Depending on the schedule |
| Balıkesir | 8.760 | 100.000 | Depending on the schedule |
| Çanakkale | 8.760 | 150.000 | Depending on the schedule |
| Çardak | 8.760 | 600.000 | Depending on the schedule |
| Diyarbakır | 17.520 | 620.000 | Depending on the schedule |
| Elazığ | 17.520 | 300.000 | Depending on the schedule |
| Erzincan | 8.760 | 600.000 | Depending on the schedule |
| Kahramanmaraş | 8.760 | 400.000 | Depending on the schedule |
| Körfez | 8.760 | 120.000 | Depending on the schedule |
| Malatya | 17.520 | 300.000 | Depending on the schedule |
| Muş | 8.760 | 100.000 | Depending on the schedule |
| Siirt | 8.760 | 100.000 | Depending on the schedule |
| Sivas | 8.760 | 620.000 | Depending on the schedule |
| Şanlıurfa | 8.760 | 500.000 | Depending on the schedule |
| Tokat | 8.760 | 150.000 | Depending on the schedule |
| Uşak | 8.760 | 500.000 | Depending on the schedule |
| Zonguldak/Çaycuma | 8.760 | 300.000 | Depending on the schedule |
| Mardin | 8.760 | 300.000 | Depending on the schedule |
| Toplam | 1.997.260 | 69.250.000 | |

Source: DHMİ

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