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GRADUATION THESES

**STUDY ON BUSINESS AVIATION
TRAFFIC TRENDS IN THE EUROPEAN UNION**

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I declare that I have worked on the graduation theses independently with using the referred-to sources and literature.

I consent to deposit the thesis in the academic library at The College of European and Regional Studies in České Budějovice and thus provide access to further educational purposes.

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INTRODUCTION

Transportation promotes progress. Nowadays the cardinal importance is placed on air travel for a very simple reason. Distances are becoming shorter, borders being withdrawn. But even in the electronic age face-to-face contact is an essential fact of business.

Aviation enables to overcome journeys in much less time that previous generations have not even dreamed of. As transportation capabilities advance, so does a region's economy and quality of life. Therefore the connection with other sectors is obvious and the choice of this graduation thesis theme was for exactly this kind of topicality. At the same time it is necessary to point out the very specific integral component of air travel, which business aviation is.

The essence of this study, business aviation, plays an increasing role in air traffic. Business aviation is a sector, which is progressing rapidly. It is an effective transportation resource and an integral part of the air transport system. The thesis presents this sector of aviation as an important business tool for companies in today's environment.

Business aviation is operated under a number of different business models, which have been gaining ground in the United States of America for some years. Although the legal, social and geographical conditions are different, these business models are being increasingly adapted for use in the European Union. The result is that the business aviation segment is growing faster than the overall air traffic market.

Particularly strong increase of flights by business jets is driven by the needs of the global economy, by increasing profits and prosperity, and by a growing acceptance of the economic benefits.

In the 21st century world, many business travellers are prepared to pay a premium for a personalized aviation service, which is a unique one that offers infinite flexibility, point-to-point routing, and an environment, in which passengers can maximize their productivity, securely and in privacy.

The importance of this graduation thesis lies in the assessment of prospective trends in business aviation in the European Union and to thereby better focus and scale the progression of the respective businesses. This includes a number of organizations and individuals involved in business aviation segment.

The study covers various aspects of the business aviation transportation. At the beginning, basic facts about this sector are described, the advantages of this aviation segment explained, differences with scheduled air carriers pointed out and industry terms defined.

To establish the traffic growth forecast, an in-depth analysis of diverse aviation angles are carried out in the practical part, such as the fleet evolution, seasonal trends in flight patterns, an economic phenomenon, options for operating an aircraft, a geographical distinction, airport availability as well as the environmental issue.

The data are acquired from both markets, the United States of America and the European Union. The comparison of the research results in a determination of reasons for business aviation growth in the European Union. A discussion on anticipated development trends is accomplished in the last chapter.

1 LITERARY REVIEW

1.1 Dimensions of business aviation

According to the International civil aviation organization¹ **business aviation is defined as:** “that sector of aviation, which consists of companies and individuals concerning the operation or use of aircraft by companies for the carriage of passengers or goods as tools in the conduct of their business, flown for purposes generally considered not for public hire and piloted by individuals having, at the minimum, a valid commercial pilot license with an instrument rating.”

Business aviation, one of the most important sectors of general aviation includes all aircraft not flown by the airlines or the military. Companies and individuals, such as salespeople and doctors, use business aircraft for travelling to regional territories in remote areas. While the overwhelming majority of business aircraft missions are conducted on demand, some companies have scheduled operations, known as corporate shuttles, which basically are in-house airlines.

The reasons for using aircraft for the purpose of business travel can be various. Many large companies use business aircraft to transport personnel and priority cargo to a variety of customer locations, including sites overseas. Business aircraft are often used to bring customers to company facilities for factory tours and product demonstrations.

European business aviation association² classifies business aviation operators in **three categories:**

1) *Commercial* – An aircraft flown by a professional crew with a licence and used by companies for the carriage of passengers or goods as an aid to the running of their business and possess a commercial operating certificate. Typically these are on-demand charters, fractional operators and air taxis.

¹ *International civil aviation organization* [online]. [cit. 15th July 2007]. Available on WWW: <http://www.icao.int/icao/en/atb/epm/Arfm/Study_BusinessAviationAccess.pdf>.

² *European business aviation association* [online]. [cit. 10th August 2007]. Available on WWW: <http://www.ebaa.org/content/dsp_page>.

- 2) *Corporate* – The non-commercial operation or use of aircraft by a company for the carriage of passengers or goods as a tool to the conduct of the company business, flown by professional crews employed to fly the aircraft e.g. corporate fleets.
- 3) *Owner Operated* – Aircraft flown and operated for business purposes by the owner.

This study covers all three types of operation. Inevitably, the definition based on aircraft-type also picks up some operations that are not strictly for business. Figure 1 illustrates the potential overlaps in the definition. For example, aircraft suitable for business utility are also sometimes used for military and state flights, some of the business aviation planes may be used for medical flights and similarly for training, so there is some concurrence with these types of flights. Business class only travel on scheduled flights, clearly focused on the business traveller, does also slightly coincide with business aviation and will be further discussed in this paper.

Fig. 1: Business aviation’s position in aeronautics



Source: European organization for the safety of air navigation, 2005

1.1.1 Advantages of business aviation

Business aviation has a major advantage over the commercial flying sector. Flexibility is the major reason for it, as saving time and productivity is. When flying with an airline carrier, one travels on the airline schedule and routes, connecting here, changing planes there, therefore doubling or tripling the travel time. Private meeting on board of a scheduled airline carrier is practically impossible, and completing work

confidentially is more than a challenge. Long drives to and from large international airports, waiting at check-in or in some cases even losing luggage, drains the productivity even further³. Business aviation has on the contrary no strict limit on how much luggage the passengers may take with them on board.

Flying by business jet differs from scheduled aviation in many ways and the contribution that business aviation makes through individualised transport is considerable. Business aircraft's advantages include:

1. Saving time - time saving is a key advantage of business aircraft use. Since business aircraft have the ability to fly to a desirable destination, which mostly are small airports not accessible by scheduled airlines, highly efficient employee time management becomes a very real benefit. The check in time is arranged directly by the client and can be as little as fifteen minutes before the departure. In case of unfortunate abnormalities that may arise (late arrival at the airport, incorrect documentation etc.), the aircraft will always be waiting for the passengers. Technology quickens pace of business and time is money. Business aviation is a great time multiplier, giving a company the competitive advantage that can make the difference between closing a deal and losing it.

2. Increasing productivity - employee productivity sustained en route to a business destination, in a secure office resembling environment, free from interruptions or distractions, can have substantial value to an employer, including strategy planning before meeting and debriefing afterwards or meeting with customers on the way. Business aircraft are productivity multipliers that allow passengers to conduct business “en route” in complete privacy thus reducing the stresses associated with travelling on commercial carriers. Business aviation enables to fly when most convenient, in the favourite and comfortable aircraft with amenities chosen as the traveller wishes. Passengers are able to choose their own extravagant cuisine, from the best champagne to the most exclusive caviar, which are normally included in the price. Business aviation constitutes “a valuable economic asset offering more efficient use of time and therefore granting the opportunity to work in the aircraft”⁴.

³ *Air Charter agency* [online]. [cit. 12th September 2007]. Available on WWW: <<http://www.charteragency.com/getstarted.php>>.

⁴ *German business aviation association* [online]. [cit. 10th August 2007]. Available on WWW: <<http://www.gbaa.de>>.

3. Minimizing non-business hours away from home - quality family time is critical to most employees and can have an acute effect on employee morale and productivity. Business aircraft allows quick and easy access to meeting locations, to avoid waiting at airports and thereby minimizing time away from home and office.

4. Ensuring industrial security - avoiding eavesdropping, reducing travel visibility as well as eliminating unwanted and unnecessary conversations – it all supports the use of business aircraft to safeguard company employees and the sensitive information they carry.

5. Maximizing personal safety and peace of mind - in recent years, business aircraft have compiled an impressive safety record that is comparable to that of the major airlines. Furthermore, the peace of mind that results from complete control over the aircraft flown, luggage overview, professional crew, aircraft maintenance and operational safety standards, is substantial.

6. Projecting a positive corporate image - for customers particularly, and often for vendors, the arrival and departure of company employees via business aircraft is the signature of a well-run corporation, indicating the progressive nature from an organization with a keen interest in efficient time management and high levels of productivity.

7. Charging the entrepreneurial spirit - by minimizing or eliminating many of the barriers to travel, business aircraft allows business opportunities to be more readily considered and acted upon. In reaching regions where access is limited with other means of transport, these newly accessible facilities and customers in remote areas, once practically unreachable, are now considered for business.

8. Exercising management control over efficient, reliable scheduling - the scheduling flexibility inherent to business aircraft can be a powerful asset. Overnight trips can be often avoided as aircraft can arrive and depart on the passengers' schedule, typically waiting for them in the ordinary course of business, meetings can be moved up, back or extended without penalty, risk or unnecessary scheduling pressures. Itineraries can be changed instantly, even on the way, and business aircraft can be flown to thousands more destinations than are served by the scheduled airlines.

From the businessman's point of view this beneficial solution of air travelling can be described in three simple words: **efficiency, privacy and flexibility**. Depending on a specific trip itinerary and the value placed on passenger time and productivity, travel by business aircraft is often the least expensive way to go when all pros and cons are considered. Of all the business aircraft advantages, **increased productivity** is probably the most important. Companies that fly an aircraft for business purposes can control virtually all aspects of their travel plans.

In summary, business aviation provides industry and commerce with flexibility and speed of operation, which the rigid schedules and time-wasting routines of airline travel deny to those who need to travel quickly, cost-effectively and by the most direct routings. It enables busy executives to complete trips in a day⁵, which otherwise would involve frustration and expense of overnight stops.

1.1.2 Options for business travellers

This sector of general aviation encompasses different models of aircraft utilization with each model having its unique characteristics and regulatory regimes applicable to them. In recent years there has been an increase of possibilities at travellers' disposal. Businessmen are being offered a growing range of ways to get themselves airborne. Rather than a simple choice between private ownership and commercial charter, they now face a wide range of choices. As the variety of options have increased, so too has the level of confusion as to the nature of the various types of programs, and the methods for determining which option is best suited to each individual.

Firstly, **whole aircraft ownership** is the most basic form of ownership, under which, the aircraft owner may directly employ pilots, mechanics and other personnel necessary to the operations of the aircraft, or may contract for some or all such services a professional aircraft management company. The pros of the whole aircraft ownership, noted by McBain⁶, include complete flexibility on scheduling usage on an ad hoc short-notice basis, tax benefits associated with depreciation and reduced

⁵ *British Business and General Aviation Association* [online]. [cit. 18th August 2007]. Available on WWW: <<http://www.bbga.aero/industry.html>>.

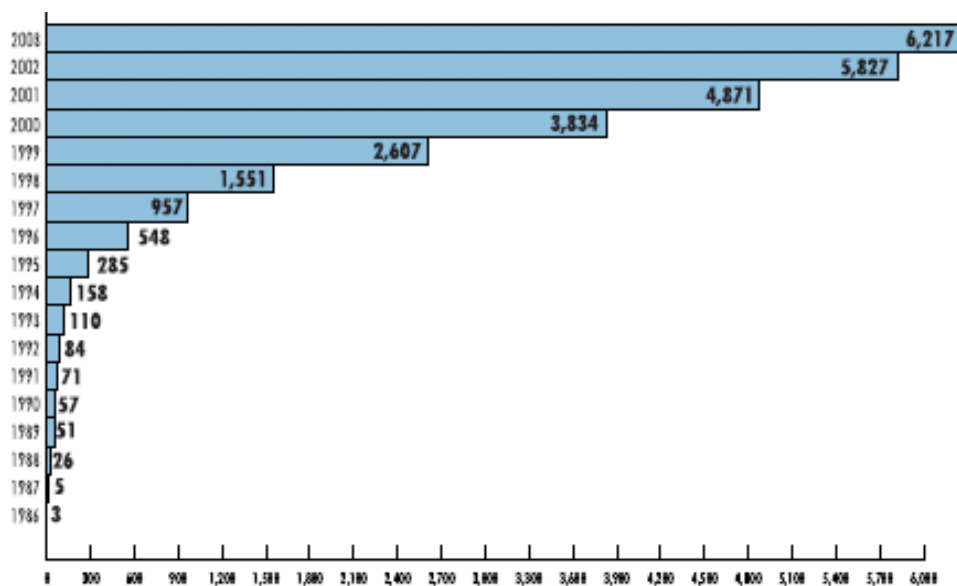
⁶ MCBAIN, I. *Owning your own aircraft*. Altitudes, 2007, Issue 2, p. 120-124.

operating costs through generation of charter revenue; while as for cons stand large capital outlay, cost inefficiencies for low utilization users, inflexibility on aircraft size or type or risk of market value depreciation.

Secondly, **fractional ownership** operates on the same principle as a timeshare property – buying a share in an aircraft through a fractional operator and having the use of it for a set number of hours per year. The original fractional private jet ownership company was NetJets, created in 1986 and owned by Warren Buffet, according to Aboulafia⁷. In the mid 1990s, NetJets was joined by two fractional providers linked to manufacturers - Bombardier’s FlexJet and Raytheon’s Travel Air and numerous other independent providers, most notably Flight Options.

An impressive rate of growth can be seen on graph 1. A sharp upward trend of fractional shares in the USA held by shareholders increased from three in year 1986 to 4,999 in 2001. In addition, fractional shareowners grew by almost 1,000 to 5,827 in the period from 2001 to 2002 alone. While the fractional companies grew, the number of clients grew faster. These new fractional customers had switched to private aviation as an alternative to scheduled air service; most of them having no previous experience with aircraft ownership.

Graph 1: Development of fractional shares in the USA, 1986 – 2003



Source: AvDataInc, 2004

⁷ ABOULAFIA, R. *Fractional ownership changes the world*. World Aircraft Sales Magazine, 2005, Vol. 9, Issue 6, p. 108.

Fractional leasing means a shared lease in a plane for fixed period of time and implies to less commitment than fractional ownership as well as an advantage of no extra costs. The time slots are expensive though and this possibility can therefore work out to be a costly option for the frequent flyer.

Further, the **ad hoc charter** is essentially an airborne equivalent of car hire where the aircraft is booked for a few days or even hours and upon return having no further obligations. Payment is calculated according to the length of rented period. Flexibility is the number one benefit; still it can feel more like an upmarket taxi service than a genuine business jet, according to Joyce⁸.

Last but not least, **air taxi** is an important part of business aviation. Passenger books a seat in an aircraft not a whole business jet, turns up at the appointed time and gets dropped at the airfield closest to the desired destination. Dramatically reduced costs mean that air taxi services can be a serious competitor to commercial flights in terms of price, but with the ability to reach a range of destinations not served by the scheduled flights. Air taxi companies not only provide air transport on demand, but also offer significant advantages to the business traveller, notably speed, flexibility and an exceptional working environment. On the other hand, very inconvenient can be the prospect of being crammed into a tiny aircraft seat, possibly alongside the competitor.

One of the newest products in corporate aviation are **jet cards**. When they were introduced at the end of the last decade, jet cards were aimed primarily at new class of customers who would fly tens of hours per year only, as Wynbrandt notified⁹. Since then, cards have proven popular with a much wider range of jet travellers. These programs work in a similar way to that of a pre-paid phone card. The card contains flight hours, often in increments of twenty-five, to be used over the span of a year. Whenever the customer flies, the total number of flight hours flown is debited from the jet card. Unlike fractional ownership programs, jet cards require no aircraft purchase and no direct charges for repositioning the aircraft are applied, as they typically are with charter.

⁸ JOYCE, M. *Corporate aviation's smooth landing*. CNBC European Business, 2007, Vol. 28, Issue 6, p. 52-54.

⁹ WYNBRANDT, J. *Playing the jet card*. Business Jet Traveler, 2007, Vol. 5, Issue 5, p. 46-49.

Most large fractional programs have one or more associated card programs. The Marquis Jet Card program is associated with NetJets, Privileged Travel Jet Card started Jet Aviation. Flight Options has the Jet Pass Ultimate Travel Card and Citation Shares the Vector Card program.

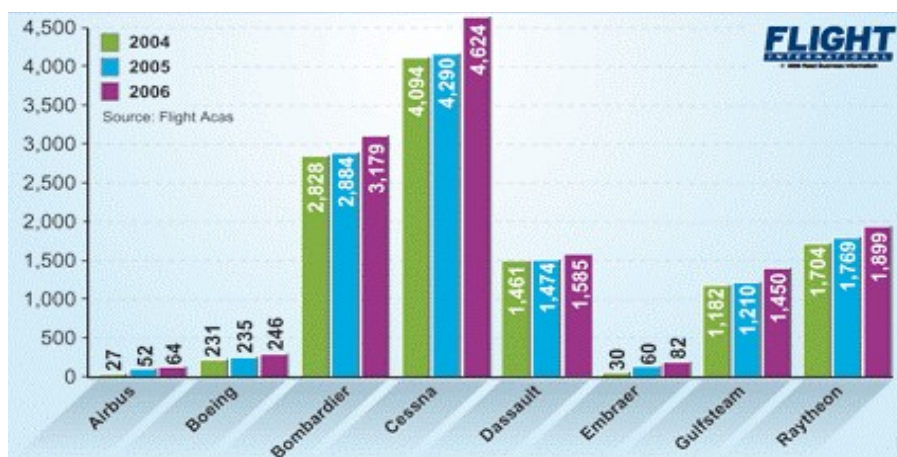
Simply put, jet cards deliver the convenience and consistency, but these benefits come at a price – per hour jet card rates are higher and because the cards are prepaid, an unused time is money wasted. The main economic advantage of jet cards comes from the one-way pricing so a jet card makes more sense when flown one-way trips rather than frequent round trips.

1.1.3 Aircraft manufacturers

The world’s business jet fleet has grown as international markets continue to embrace this sector. The current market for new jets is worth 9 billion USD each year¹⁰. With backlogs high, manufacturers are introducing new products and upgrades to sustain and stimulate interest among a widening customer base.

Graph 2 illustrates the growth in business jets from the year 2004 to the year 2006 by individual manufacturers.

Graph 2: Business jet growth by manufacturer



Source: Flight Acas, 2007

¹⁰ *Shifting market shares among the manufacturers* [online]. [cit. 20th December 2007]. Available on WWW: <<http://www.planemarkets.com/businessjets.htm>>.

The strength of **Cessna** arises from its concentration on entry level to medium sized aircraft and its regular introduction of updated products. Cessna continues to dominate deliveries. The 2006 inventory grew by 334 Citations to 4,624. Cessna has also brought an innovative new aircraft to the market, Citation Mustang, called VLJs, or very light jet, which is specifically designed to serve the needs of 21st century.

Bombardier's business jets have climbed by more than 10% from 2,884 aircraft to 3,179 aircraft. The trend is set to continue as the Canadian maker boosts business jet production. Long-range Global Express XRS, large-cabin Challenger 850 and upgraded mid-size Learjet 60XR belong to Bombardier products.

Raytheon Aircraft boasts the broadest product spans of any manufacturer and has seen its aircraft fleet grow steadily since the last census from 1,769 aircraft to 1,899. The census has confirmed its position as the best selling mid-size jet. Raytheon's strength derives from well established A/C types and a wide product line.

Dassault Aviation Aircraft Corporation is specialising at the high-end business jet market. In the census period the inventory has climbed from 1,474 jets to 1,585. Shvydkin discussess the issue of the new Falcon 7X¹¹. Already gaining the popularity at air shows the ultra-long-range Falcon 7X, linking for example Paris and Singapore, will receive a boost with its introduction. With 125 registered orders, one fifth of the amount by NetJet Europe, this Dassault model is a total success as far as technology is concerned.

Gulfstream leads the market in terms of the value of delivered business jets. Peron¹² noted, that in March 2006 this Georgia-based manufacturer announced creating 1,100 new jobs by 300 million dollars expansion plan, which will reduce the sales cycle dramatically. Gulfstream's in-service fleet has climbed by 20% from 1,210 aircraft to 1,450, almost ten times more than previous year's tally.

Embraer recorded the largest percentage increase with a 37% rise in its jet fleet from 60 to 82 aircraft, as market acceptance of its Legacy business jet series accelerated. The Brazilian manufacturer's drive to become a major player in business

¹¹ SHVYDKIN, A. *Dassault Aviation is increasing manufacture of Falcons*. Jet Business & Aviation, 2007, Issue 27, p. 23-26.

¹² PERON, S. *Record setting convention*. Altitudes, 2007, Issue 1, p. 70-77.

aviation is picking up pace as it pursues certification of its new range of aircraft, the Phenom 100 VLJ. Embraer is due to start deliveries of its very light jet four seater in summer 2008.

The **Boeing Business Jet, BBJ in short**, whose engineering and operations are based on safety and reliability of the 737 aircraft is one of the most successful aircraft in the world. In the year 1996, Boeing and General Electric teamed up to create the Boeing Business Jet and thus setting new standards in space, comfort and utility. In October 1998, the delivery of the first BBJ took place. The inventory has risen by 11 aircraft, bringing it to total of 246 in 2006. The Boeing celebrated ten years of the Boeing Business Jet with a booming sales record, one quarter sold in Europe and Russia, one third in the United States. Boeing headquarters claims that it is sold out until middle 2011.

The **Airbus Corporate Jetliner (ACJ)** family is the most modern and spacious top of the line corporate jet group in its class. In 1997, Airbus launched its first ACJ, based on the airframe of the A319, followed by the A320 and the newest A318 Elite. The Airbus Corporate Jetliner has the flexibility to accommodate nineteen to fifty passengers, depending on its configuration. Business and conference centres, lounge areas and private suites and full-height showers are all possible at a level of quality, functionality and luxury that meet the most demanding requirements. With advanced aerodynamics and the latest in system design, the Airbus Corporate Jetliner has lower fuel consumption and maintenance costs than competing aircraft¹³. The Airbus Corporate Jetliner fleet has climbed by 23 per cent from 52 aircraft in 2005 to 64 in the year 2006.

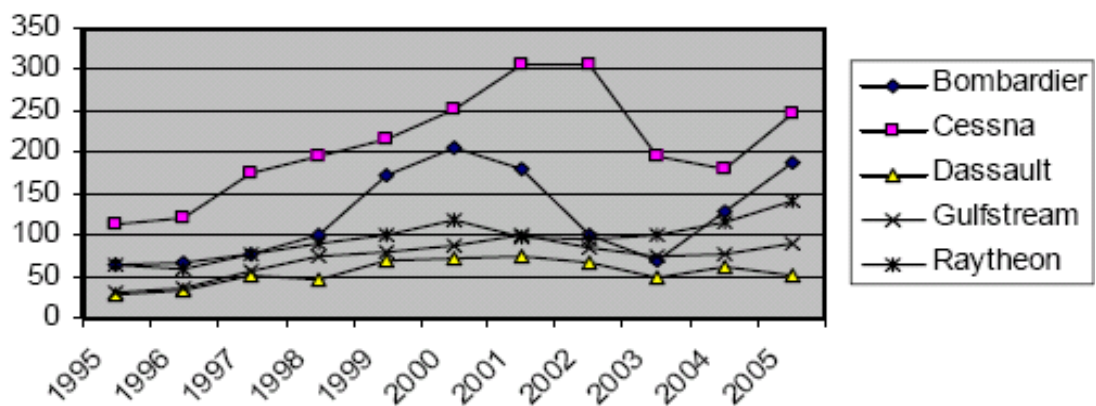
The inventories of business jets based on Airbus and Boeing airliners have made strides as the growth in a group transport pushes demand for their large-cabin aircraft. This customer segment is composed of 44 per cent private individuals like billionaires, oil sheiks, oligarchs, demanding the same comfort in the air as provide their luxurious compounds, with 36 per cent government transport, 10% by corporate operators and remaining 10% charter operations, as Welch remarked¹⁴.

¹³ *Airbus* [online]. [cit. 15th November 2008]. Available on WWW: <http://www.airbus.com/en/aircraftfamilies/executive_aviation/acj_family/comfort.html>.

¹⁴ WELCH, J. *Trends in business aviation*. Fly & style, 2007, Issue 2, p. 32-33.

The business **jet market is already consolidated**, with only **five main players**. Basing on the GAMA data, chart 1 displays the strongest position in the turbojet sector traditionally by American manufacturers, with Raytheon, Cessna Aircraft and Gulfstream Aerospace possessing about 66.59% of the whole market, followed by the Canadian Bombardier (20.1 per cent) and French Dassault Aviation, the strongest European player with market share of about 9.16%. This big player dominance will continue, as they have the resources and critical mass to develop ever-important new models, and to withstand market downturns.

Chart 1: Number of business jets delivered by manufacturers



Source: General aviation manufacturers association, 2006

1.2 European Union policy in aviation

Over the last twenty years, there has been a revolution in the economic and regulatory landscape of air transport in Europe. This is largely due to the creation of a single market for aviation in the European Union in the 1990s, which removed all commercial restrictions for airlines flying within the EU, such as number of flights and the setting of fares. **European policy has transformed the aviation industry** by creating the conditions for competitiveness and ensuring both quality of service and the highest level of safety.

Air transport also makes a **key contribution to the European economy**. Aviation employs more than three million people¹⁵ in the European Union and supplements more than 120 billion EUR to European GDP.

¹⁵ *Flying together - EU Air transport policy*, Luxembourg: Office for Official Publications of the European Communities, 2007. 16 p., ISBN 92-79-03455-3.

The European Union is extending its aviation policy beyond borders by reviewing bilateral agreements to ensure equal position for all European Union airlines, by establishing a common aviation area with neighbouring countries in the east and in the Mediterranean by 2010, as well as by setting up open aviation areas with other key international partners. A lot still needs to be done to allow air transport to fulfill its potential, but the EU is set to pursue these ambitious goals.

As Swickard noted¹⁶, the European Commission has in February 2007 published a discussion paper about General Aviation in the European Community. It reports that in 2005, 6.9 per cent of all European flights with instrument flight rules, which is a set of regulations for flying aircraft without the assumption that pilots will be able to see and avoid obstacles, terrain, and other air traffic, were attributed to business aviation. The discussion paper estimates that “the business aviation segment in Europe will grow by 4% p.a., twice as fast as the rest of European air traffic, and foresees an increase in the European fleet of business aircraft of 50% over the next decade.

Due to the increase of air traffic in Europe for optimizing limited aviation infrastructure and capacity, the European Commission proposes **to integrate general and business aviation into the EU air transport policy**. On January 11, 2008, the European Commission has adopted an agenda¹⁷ for general and business aviation in Europe. It was for the first time since the creation of the European Union internal aviation market that the EC has studied business aviation sector and quantified its value.

1.2.1 Air transport regulations

Europe has now close to 8.5 million flights per year. **The single European sky**, SES in brief, launched by the European Commission entered into force in April 2004. The objectives of the single European sky were to restructure European airspace as a function of air traffic flows rather than according to national borders, to create additional capacity and to increase overall efficiency of air traffic management system.

¹⁶ SWICKARD, J. *Intelligence*. Aviation week Business & Commercial Aviation, 2007, Vol. 100, Issue 3, p. 15.

¹⁷ *An agenda for sustainable future in general and business aviation* [online]. [cit. 12th January 2008]. Available on WWW: <http://ec.europa.eu/transport/air_portal/internal_market/general_aviation/doc/en.pdf>.

The implementation of the SES brings major enhancements in air traffic management leading to efficiency gains of six to twelve per cent. Up to 500,000 tonnes of fuel per year in Europe is saved by only one per cent efficiency gain. The single European Sky initiative was confidently expected to lay the foundations of a unified system, which are able to cater for the anticipated growth in aviation.

A historic agreement **Open Skies** to further liberalize air services between the USA and the European Union takes effect on March 30, 2008. Once implemented, every American carrier will be able to fly to every city in the 27 EU member states and vice versa¹⁸. The experts say the Open Skies will lead to competition and therefore lower prices and estimations are, that the agreement will create consumers' benefits worth of up to twelve billion EUR on both sides of the Atlantic.

1.2.2 Environmental issue

As air traffic continues to grow a common initiative is needed at the European level to keep air transport safe and sustainable. **The European Aviation Safety Agency**¹⁹, operational since 2003, is an independent European Union body accountable to the Member States. The EASA is the centrepiece of the EU strategy for aviation safety and develops common safety and environmental rules at the European level.

The main environmental effects of aviation are those of aircraft noise and aircraft emissions. The former largely affect areas at and around airports, the latter can have both local effects on air quality and global effects on climate.

Aircraft noise levels are today around 20dB lower than they were forty years ago, which represents a significant reduction in received acoustic energy. However, the number of air traffic movements has increased and the disturbance to the public caused by aircraft noise remains the most significant environmental impact around airports. Many airports have implemented noise-charging schemes and have also been forced to close at night or accept operational night time restrictions.

¹⁸ *United States mission to the European Union* [online]. [cit. 16th December 2007]. Available on WWW: <http://useu.usmission.gov/Dossiers/Open_Skies>.

¹⁹ *European Aviation Safety Agency* [online]. [cit. 8th January 2008]. Available on WWW: <http://www.easa.eu.int/home/g_enviro_n_challenges.html>.

Aviation accounts for two per cent of global man-made CO₂ emissions. Under the Kyoto protocol, the EU is committed to cut its emissions by eight per cent from 1990 levels by 2012. The **Emission trading scheme (ETS)**²⁰ is Europe's principle mechanism to achieve its Kyoto targets. In December 2006 the EC proposed to include aviation in the European Union's ETS from 2011. The details of the European proposal are still being negotiated. In any case, ETS is only one of the various tools to ensure to manage the CO₂ emissions from air travel; other instruments include technological progress in A/C, engine design, alternative fuels and infrastructure improvements.

1.3 Business aviation industry in the USA

American business aviation market is already well established. An upward trend started in the late 1920s and 1930s, when progressive companies realized the time saved by air travel. With the introduction of jets in 1960s, business aviation expanded rapidly.

The past twenty years have seen many **changes in the ownership** and operation of business jets. Lacy²¹ noted, that "while many established corporate flight departments continue to flourish, many new users find that charter or fractional ownership meet their needs better". Fractional-share programs have added 4,000 new business aviation customers in the last five years alone and the average share size is growing smaller.

The newest and fastest growing segment of business aviation in the past ten years has been **aircraft management**. This is where an owner purchases an aircraft and then assigns it to a management company to operate. It involves investment but the management company handles all other functions from supplying pilots, to assuring the aircraft is continually airworthy.

In the United States of America there are over 221,000 active aircraft²² used in corporate and business aviation, in emergency medical service and for personal

²⁰ *Air Transport Action Group initiative* [online]. [cit. 4th December 2007]. Available on WWW: <<http://www.enviro.aero/EmissionsTrading.aspx>>.

²¹ CLAY, L. *Business aviation continues to soar* [online]. Los Angeles: Business journal, 2005. [cit. 2007-11-18]. Available on: <http://findarticles.com/p/articles/mi_m5072/is_47_27/ai_n15932717>.

²² *General aviation manufacturers association* [online]. [cit. 14th January 2008]. Available on WWW: <<http://www.gama.aero/events/air/dloads/2007GAMADatabookOutlook>>.

recreation. These aircraft fly over 27 million hours each year, two-thirds of which are for business purposes. Business **jets benefit American society** in other ways as well, for instance transportation of critical medical organs and patients has saved thousands of lives due to time saved or news media travelling to disaster areas, companies doing road shows.

The key body in the USA, that represents more than 8,000 member companies relying on general aviation aircraft to help make their businesses more efficient, productive and successful, is the **National business aviation association**²³, founded in 1947 and based in Washington, DC. NBAA's goal is to create an environment that fosters business aviation and NBAA members are the most active users of business aviation in the world yet they purchase over 10 billion USD in airline tickets annually.

As far as security is concerned not very many years ago, the typical corporate aircraft in the USA was owned and operated by a single company, and most passengers were familiar faces, according to Sharkey²⁴. Since about 1996, however, corporate aviation is booming. Increasingly, corporate planes are carrying passengers, who are strangers to one another and to the flight crew. Besides none of the passengers on business planes receive the pre boarding security checks that are standard practice at commercial airports and a very few even pass through a metal detector. Many operators have tightened security procedures since 9/11, but the industry still needs some level of security that is going to ensure international safety.

Business aviation, an important travel resource, **provides access** to about 5,000 locations within the USA. Sheehan²⁵ stated, that over 10,000 American companies own business aircraft, and about 90% of the public firms returning the highest dividends and capital gains to shareholders employ some form of business aviation.

²³ *National business aviation association* [online]. [cit. 12th December 2007]. Available on WWW: <<http://web.nbaa.org/public/about>>.

²⁴ SHARKEY, J. *Security is looser on corporate aircraft* [online]. New York: The New York Times, 2003, [cit. 2008-01-12]. Available on: <<http://query.nytimes.com/gst/fullpage.html?res=9406E4D71E31F93BA15753C1A9659C8B63&scp=1&sq=Security+Is+Looser+on+Corporate+Aircraft+&st=nyt>>.

²⁵ SHEEHAN, J. *Business and corporate aviation management*. New York: McGraw Hill Professional, 2003. 330 p., ISBN 0-07-141227-1.

2 THE OBJECTIVE AND METHODOLOGY

The objective of the study is to determine potential development trends in business aviation in the European Union. The assessment is based on the results of the market research as well as on the outcome of the analysis of reasons for business aviation growth conducted in chapter 3.

The information for the research analysis has been systematically collected from diverse sources. The bibliographic entry for each source is individually described in the footnote unless otherwise stated.

The Table 1 presents classified quantitative data separately from the market in the United States of America and the European Union. The entry fields have been gathered by methodical research work from all possible perspectives of the observed business aviation segment. This data are thoroughly compared from different aspects and further discussed throughout the practical part of the study.

A different method has been used in the subsection 3.3.3 and 3.3.4. The figures have been acquired by detailed compilation of data information from a charter operator in Austria. The numbers were summed up by counting the flight hours and minutes of performed flights on a medium size business aircraft, during the period of five years, between 2003 and 2007. Complex numbers were interpreted in graphic illustration into table 2, 3 and 4 and analysed.

In terms of table 2 and 3, a verbal commentary of the month-to-month statistics is included as well as cross-comparison and suggestions to limit the high percentage outcome. The data observation and summary is relevant to table 4.

The Chart 2 features graphics image of passenger flights only and therefore the data entry fields from table 3 were used, for all the monitored years 2003 to 2007. In the case of this chart, the findings were in summary generalized.

3 ANALYSIS OF REASONS FOR GROWTH IN THE EU

There is a number of premises for the business aviation growth worldwide, but even more in the European Union. Nowadays, the main challengers to other countries dominating the global industry, including aviation, are new economic powers such as China, India and Russia. So why should be the business aviation growth applied to the EU? It is based on the very fact that the EU economy is rising rapidly as a whole. This political and economic community has the strength of unity. The European Union implements regulations to improve the situation for all member countries and its inhabitants. The speculations of further business aviation progress in the EU are competent, which will be proved and supported in this analysis.

The United States of America is an example of a country, where business aviation has been operating with a success for more than 25 years. It is important to note that in the USA people and businesses have long time ago realized the positive social effect business aviation has on the society. Business jet transportation is more common there. Nevertheless in many other areas, including the European Union, business aviation is still a bit of a novelty that has only recently started to catch on.

The analysis will be conducted by researching the USA and the EU market from different angles to find out, which areas of interest regarding business aviation can be applied to the European Union. The gathered data categorized into the table below indicate various distinctions between the EU and the USA.

Table 1: Comparison of the US and the EU

	US	EU
Geographic area in sq km	9,826,630	4,324,782
Population (July 2008 est.)	303,824,646	491,018,677
GDP at purchasing power parity in billion USD (2007 est.)	13,860	14,480
GDP per capita in USD (2007 est.)	46,000	32,900
Percentage share of business aviation world market	72	10
Business aircraft operators	6,600	900
Number of business aircraft	10,100	1,700
Qualified pilots available	600,000	207,000
Business aviation airports with paved runways	5,143	1,991
Aerodromes for scheduled airline use	558	450

3.1 Geographical variety

The land area of the European Union is half of the United States of America, while there are approximately 60% more inhabitants²⁶ in the EU implying to almost four times higher population density. There are 113 inhabitants per sq km in the EU, whilst 31 inhabitants per sq km in the USA.

This information is relevant to business aviation because of the need to access distant areas. Owing to its characteristics, business aviation connects regions and places easily. At remote locations business aviation also contributes to the development of tourism, top gastronomy and accommodation facilities, since customers require VIP service. Especially at the distant areas, the airline connections are rare with limited choice of airport. Scheduled air carriers do not obviously serve all airports either because of economic reasons or can not provide due to operational requirements.

In the United States of America the scheduled airline transportation is widespread across the whole country with many busy transit airports, still business aviation makes possible to fly directly between two places as well as to reach an airport, that an airline carrier does not access at all. Such a situation is also visible in the European Union, even though on a smaller scale and in selected areas e.g. Northern and Eastern parts. The map of Europe shows that 500 busiest routes in this continent carry one third of all business flights²⁷.

Another distinction necessary to remark is that the USA is a federal republic, comprising of fifty states and federal district, whereas the European Union a community of 27 member states with different backgrounds. Concerning business aviation, NBAA is the only American organization regulating business aviation, functional for over half a century. In Europe, the EBAA is the leading association for business aviation, but there are also national organizations active in this sector. British, German, French and Italian are the most notable ones. In these European Union countries business aviation movements are concentrated the most²⁸.

²⁶ *Central Intelligence Agency* [online]. [cit. 7th December 2007]. Available on WWW: <<https://www.cia.gov/library/publications/the-world-factbook>>.

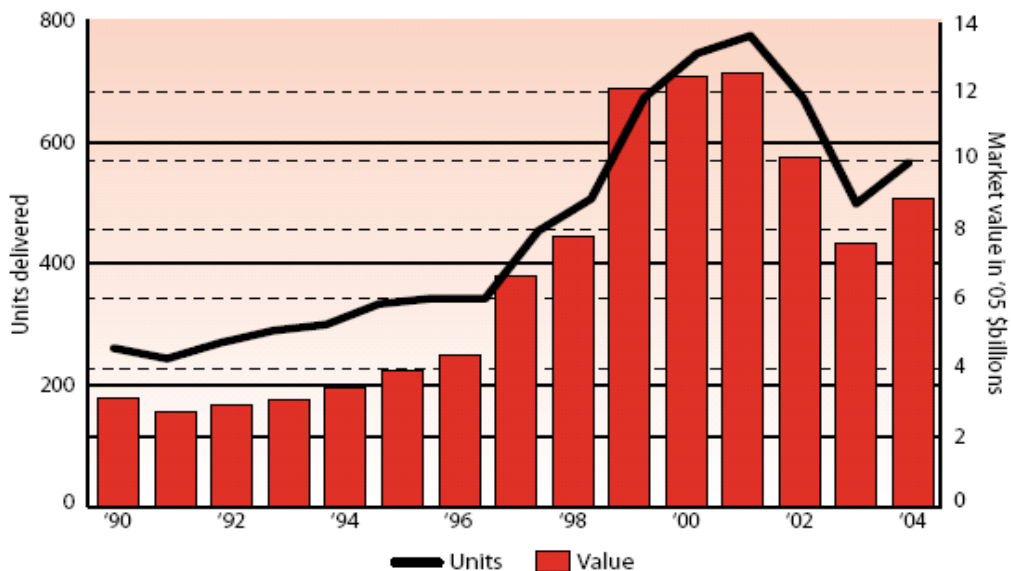
²⁷ The busiest business aviation routes in Europe can be seen in Annex I.

²⁸ Business aviation movements in European countries are presented in Annex II.

3.2 Economic appraisal

The Gross Domestic Product per capita is 50% higher in the USA (46000 USD) than in the EU (32900 USD)²⁹. Sustained **economic development is a key factor supporting a longer-term outlook** for growth. As can be seen in graph 3, just five years ago, the business aviation industry was on its knees everywhere in the world. With the combined impact of September 11, 2001, a global economic downturn and hesitancy amongst formerly free spending businessmen, annual orders for new business aircraft went down. These dark days are now over and in the past few years orders have begun to return to their pre-crash levels.

Graph 3: Worldwide business aircraft market value



Source: Teal group, 2005

The **economic value** of general aviation, whose integral part is business aviation, quotes as being “103 billion USD in the USA, compared with the UK value of 1.4 billion GBP”³⁰, which makes 2–3% of the American figure. Considering half of the 27 European Union member states have figures similar to that of the UK, infer to only just over one third of the USA economic value in the EU. Yet there are more citizens in the EU, which also adds up to a huge potential for growth.

²⁹ *Central Intelligence Agency* [online]. [cit. 7th December 2007]. Available on WWW: <<https://www.cia.gov/library/publications/the-world-factbook>>.

³⁰ *International aircraft owners and pilots association Europe* [online]. [cit. 9th February 2007]. Available on WWW: <<http://www.iaopa-eur.org/contentServlet/pid1000595.html>>.

What's more, other **factors driving the European growth** are the strength of the Euro against the US dollar, as well as increased wealth and business expansion predicted for Eastern Europe and the former Soviet Union countries.

The development in aviation effectively mirrors a broader economic trend, in which society is moving towards an hourglass model. Aviation customers are splitting into a large cost sensitive element, represented by scheduled airline transportation that becomes more time and energy consuming and a small price-inelastic element, which presents business aviation. There is less and less of a middle market in between these two sectors.

Business aviation is an industry that **creates new employment opportunities**. This aviation segment is not only offering jobs itself, but it is also one of the very important sources of qualified staff, from which airline carriers can withdraw, and vice versa. Further, as aircraft manufacturers' orders continue to grow, expectations of the creation of well-paid stable jobs will continue.

Business aviation is perceived as enhancing productivity of enterprises and therefore contributing to the development of the whole economy. That is why consequently the inhabitants of all EU members certainly profit from business aviation.

3.3 Operation possibilities

Business aviation operators and jet manufacturers have historically the strongest presence in the USA, where is also the strongest tradition of companies and individuals using private aircraft for the purpose of business travel. There are 6,600 companies operating in the United States of America, while Europe is home to the world's second largest concentration of business aircraft operators (900)³¹.

For a short time after the 9/11, several business aviation companies went bankrupt because of decreased demand in flying, but in recent years the numbers look promising again for the future growth. Nevertheless, this sector did not make a full recovery yet and there is still a danger of drop. This can be due to a contribution of two factors.

³¹ *Business jet traveller* [online]. [cit. 10th January 2008]. Available on WWW: <<http://www.bjtonline.com/bjtonline/BJT%2007%20Media20Kit.pdf>>.

First is **the increasing number of demanding clients** who are taking advantage of buying their own jet. The reasons to move to full aircraft ownership have never been so strong. For the fast paced business user, commercial airline travel has become frustratingly slow and inconvenient. New small regional airports make direct point-to-point travel a reality and the currently available range of business jets provide the means. The issue to consider when purchasing a personal jet is to analyse how often would a businessman use the aircraft. A following calculation brings the answer. An entrepreneur travels a journey Prague-London-Prague by a midsize Learjet 60XR every other week, which are 3.5 flight hours per each trip quoted by a charter company 20,000 USD³². This amount is basically given away as if renting an apartment instead of owning one. In a year 91 flight hours for hired jet costs passenger 520,000 USD, that multiplied by 25 years, life span of an A/C, equals to 13 million USD³³, a price for which a new such a middle class business aircraft can be purchased.

Therefore the assumption is that a businessman should think of purchasing own aircraft, when using the jet from approximately 100 flight hours per year and obviously having the financial capital. A very personal jet gives the owner the possibility of using the aircraft unlimited. Further, providing more efficiency to the owner, an additional possibility is to sub-charter the aircraft through an operator, which applies quite often. In this scenario the aircraft can generate income and reduce the expenses. Next key decision when investing in a personal aircraft is how it will be managed and operated on a daily basis, which is discussed in the subsection below.

Second factor is **the growing number of jet hire operators**³⁴, resulting in a bigger competition, which may decrease the prices and thus appeal to budget conscious business travellers. The trend in business aviation goes in the same direction as moves the enlargement of the European Union - towards eastern and southern-eastern Europe. With continuing progress in the emerged markets, a profitable business is secured for European companies involved in business aviation in the foreseeable future.

³² *Aircraft charter holding reservation system* [online]. [cit. 20th February 2008]. Available on WWW: <<http://aircharter.echarterconnect.com/aircharter/eCharter/build/start.jsp>>.

³³ *Bombardier manufacturer* [online]. [cit. 25th February 2008]. Available on WWW: <http://www.bombardier.com/en/0_0/0_0_1_7/0_0_1_7_8/pdf/NBAA+Business+Aircraft+Analyst+Meeting.pdf>.

³⁴ Increase of operators is illustrated in the graph in Annex III.

The possible economy slowdown would however restrict aviation travel and the most typical clients from some corporations that send their management to various business meetings may try to save money on business travel. That would not be a positive prospect for these charter operators, especially in case of small firms with limited number of clients. Comparing figures from the collected data, brings the outcome of **existence of mostly small enterprises in business aviation**. In the USA, one operator accounts for one and a half aircraft, while in the EU each company operates in average two jets. However, in the USA there are mostly corporate non-commercial operators that use the aircraft as a tool to conduct their company business. The situation in the EU is different and the business aircraft operators are by majority commercial companies that do rely on selling the flight hours to prospective passengers and not always provide other relating services. In other words, the phenomenon of the business charter concept means that unless pursuing the course of action, these operators are likely to find itself exactly in that no-man's land between the top and bottom of the clientele.

3.3.1 Fractional ownership

While a number of business aircraft options are available, the current matters of importance for European industry in relation to the United States of America include fractional ownership regulation, in which companies or individuals own a fraction of an aircraft and receive management and crew services associated with the aircraft operation. Fractional ownership allows companies that have never before used business aircraft to experience many of the advantages of business aviation quickly and without many of the startup considerations typically associated with traditional flight departments. Since fractional ownership costs less than a whole A/C, it is a fantastic selling argument for operators. Costs are not that high at minimal risk.

Sharing airplanes through fractional ownership programs has never been more popular. As graph 1 in the section 1.1.2 shows, fractional aircraft programs in the USA have grown dramatically since the concept was introduced. The **fractional ownership concept proved so successful** because the share allows accessing the entire fleet of aircraft in the program, thus allowing to select the aircraft best suited to the mission on a flight-by-flight basis.

American companies dominate the worldwide fractional ownership market. While fractional ownerships used in the EU are lower than in the USA, growth has recently begun to accelerate with one main company, NetJets, which for European market offers an association with one of the main fractional ownership providers that with a success operates in the USA.

3.3.2 Aircraft management

There is wide selection of aircraft management companies on the market³⁵ in a likewise proportion as the operator figures, significantly more are found in the USA than in the EU. The most notable are Jet Aviation, NetJets and TAG Aviation. Aircraft management firms support aircraft owners by providing them the full range of **specialized business aviation services** on their behalf including maintenance oversight and repair, ground handling (supporting an aircraft while at the airport), professional crew selection and employment, aircraft insurance, accounting etc. Whilst aviation and aircraft operation is a complex area, all of the necessary solutions are available to the discerning owner.

Another issue that arises once owning an aircraft is its registration, which management companies can help with as well, which is necessary to provide the proof of nationality and ownership. In some countries it is a simpler and more advantageous process than in others. Depending on the law of registration country, the operation of non-EU aircraft within the European Union may lead to the application of VAT charges, where any person on board the aircraft is EU resident. Very often companies and private individuals enjoy **major advantages and legal tax savings** by registering the aircraft in an appropriate jurisdiction, providing confidentiality and the protection and privileges offered by such registration. For instance Austria has been popular in the past few years because by registering the aircraft there for more than three years means the A/C owner doesn't have to pay any VAT. To quantify the most suitable jurisdiction for registering a particular aircraft depends on number of factors e.g. in which country the A/C owner is resident or in which countries the aircraft will be mainly used. And again here comes the expertise of an aircraft management company.

³⁵ *Aviation business index* [online]. [cit. 15th February 2008]. Available on WWW: <<http://www.aviationbusinessindex.com/summary.asp?sub=MC>>.

To place the jet into capable hands of an aircraft manager is an option that makes great economic sense for the new owner. Not only will the aircraft management company provide all of the necessary aircraft services, but they can also appoint for the **aircraft's use in third-party arrangements**. Alternatively, for the owner who wishes to maintain a closer involvement in managing own aircraft, including perhaps flying it him or herself, the aircraft management can be used on an outsourcing basis to provide selected services only, with the remainder being handled by the owner or maybe an employed pilot.

Advantages of this approach are that the really important and hard work associated with owning and operating an aircraft can be put into the hands of experts who have the systems and processes, as well as resources and technology in place for their own fleets. The A/C owner is free to relax in the luxury that the new purchase brings and to simply enjoy the convenience and the prestige of travel in own plane and can concentrate fully on the business. Altogether, taking advice from a professional management company cannot be substituted.

3.3.3 Reducing environmental impact

Nowadays, the **environment has become an important issue for everyone**, which is likewise true for business aviation. The industry manufacturers strive to enhance the fuel efficiency of its products. The A/C are made of new environmental friendly materials and are mindful of the need to lower operating costs. Therefore, the fuel efficiency of the business aviation fleet will continue to improve in the coming years. But despite technological developments, business aviation still has an impact on the environment, and like the wider airline industry or any other means of transport, it must seek to minimize impact on climate and air quality. According to Presentation to the Group on international aviation and climate change³⁶ business aviation accounts for just “1-1.5% of all aviation carbon dioxide emissions, and overall CO₂ emissions combined by all business aircraft per year equal to one medium size power plant”. However volume of business aviation travel is increasing.

³⁶ *Presentation to the Group on international aviation and climate change by IBAC* [online]. [cit. 18th February 2008]. Available on WWW: <<http://www.icao.int/env/meetings/Giacc/Ibac.pdf>>.

Naturally on a long term basis, relating to harmful environmental impact, the prospective business aviation growth is limited by changes in **ecological perception** of the American as well as European society, **petroleum reserves** and **future oil prices**. Although oil prices³⁷ rise globally and fall is expected in the course of the year 2008, that drop will be from a much higher level than in the past.

An important factor that has an impact on the airspace utilization by business aircraft is a **significant amount of empty flights** that are necessary in order to get the plane to the departure point or return it to base after the flight. It is a common phenomenon in the field of business air transportation that charter airlines often have to fly empty aircraft from one place to another. This is called variously: “deadhead”, “positioning”, “ferry” or “empty leg”.

To quantify the percentage share of these positioning flights, data information had to be assembled from one such a charter company, based in Austria, operating one medium size long-range business jet. Counting flying hours and minutes of performed flights on this plane over five years, 2003 to 2007; the collected entry fields have been summarized and interpreted into two separate tables. Ferry flights statistics is presented in the table 2, whereas table 3 presents passenger flights.

Table 2: Ferry flights statistic (in hours and minutes)

Month / Year	2003	2004	2005	2006	2007	Total
January	11:53:00	20:38:00	7:50:00	26:06:00	34:05:00	100:32:00
February	17:44:00	12:26:00	16:31:00	29:53:00	11:13:00	87:47:00
March	12:58:00	30:00:00	4:55:00	16:49:00	21:52:00	86:34:00
April	34:55:00	16:40:00	0:00:00	7:32:00	20:14:00	79:21:00
May	15:36:00	16:09:00	18:33:00	26:52:00	22:18:00	99:28:00
June	0:00:00	0:00:00	13:35:00	23:52:00	8:03:00	45:30:00
July	2:11:00	20:24:00	35:06:00	29:00:00	21:37:00	108:18:00
August	27:37:00	26:40:00	18:53:00	16:25:00	26:26:00	116:01:00
September	33:55:00	22:14:00	9:14:00	22:13:00	12:44:00	100:20:00
October	7:38:00	15:48:00	18:10:00	13:21:00	9:02:00	63:59:00
November	10:44:00	7:15:00	22:53:00	20:47:00	9:02:00	70:41:00
December	33:28:00	29:43:00	27:01:00	4:12:00	8:30:00	102:54:00
Total	208:39:00	217:57:00	192:41:00	237:02:00	205:06:00	1061:25:00

³⁷ Annex IV demonstrates oil prices development between the years 1986 and 2008.

Table 3: Passenger flights statistic (in hours and minutes)

Month / Year	2003	2004	2005	2006	2007	Total
January	32:21:00	22:03:00	23:35:00	19:44:00	52:40:00	150:23:00
February	17:08:00	26:34:00	28:21:00	58:49:00	20:03:00	150:55:00
March	21:14:00	22:31:00	5:44:00	53:38:00	39:19:00	142:26:00
April	25:56:00	28:36:00	0:00:00	12:32:00	37:30:00	104:34:00
May	34:25:00	24:37:00	35:53:00	67:58:00	37:46:00	200:39:00
June	0:00:00	0:00:00	25:31:00	26:44:00	14:44:00	66:59:00
July	0:46:00	30:12:00	39:21:00	51:39:00	17:03:00	139:01:00
August	32:44:00	34:23:00	26:56:00	26:33:00	20:39:00	141:15:00
September	57:24:00	29:20:00	41:36:00	60:42:00	23:00:00	212:02:00
October	29:01:00	51:06:00	31:36:00	36:40:00	16:03:00	164:26:00
November	43:04:00	7:45:00	35:12:00	37:46:00	37:38:00	161:25:00
December	49:58:00	48:46:00	38:14:00	30:40:00	24:27:00	192:05:00
Total	344:01:00	325:53:00	331:59:00	483:25:00	340:52:00	1826:10:00

In June 2003, June 2004 and April 2005, there have been zero flights performance, which was not due to missing data entry but on the ground of scheduled maintenance. As for the cells in table 2 highlighted in yellow, these are the months, during which aircraft was in the air flying without any passenger for more time than with passengers. In case of July 2003, ferry flight of duration 131 minutes has been conducted to fly only for 46 minutes with passengers, which is almost three times less.

Table 4 shows total flight hours comparison of ferry and passenger flights between the years 2003 and 2007. It can be clearly seen that the strongest year in terms of sales had been the year 2006, with more than 50 per cent higher performance compared with all other monitored years. Percentage share of ferry flights is calculated in highlighted cells and ranges from 49 to 66 per cent.

Table 4: Ferry versus passenger flights

Year / Total flight hours	Ferry flights	Passenger flights	Ferry / Passenger (in %)
2003	208:39:00	344:01:00	60.65
2004	217:57:00	325:53:00	66.88
2005	192:41:00	331:59:00	58.04
2006	237:02:00	483:25:00	49.03
2007	205:06:00	340:52:00	60.17
Average (per annum)			58.95

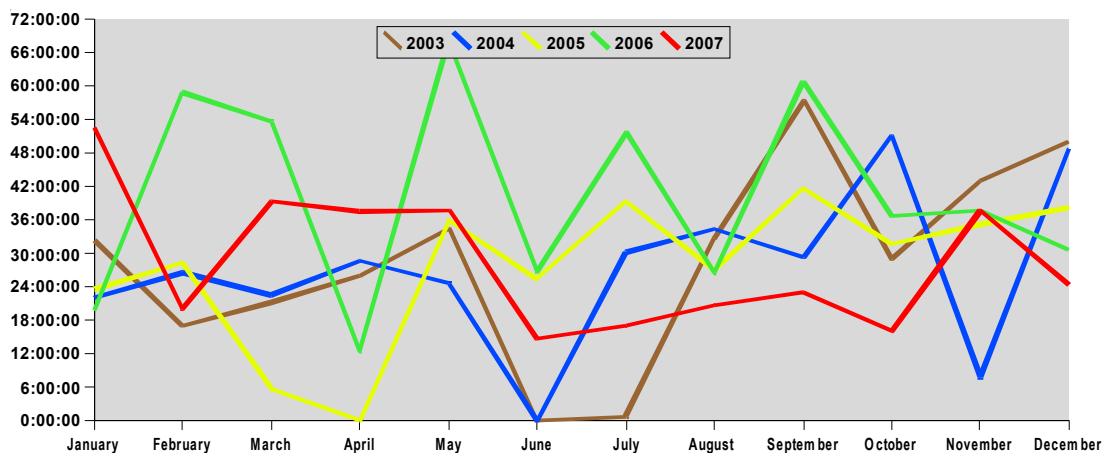
The customers booking the trip pay for these positioning routes, however the average share 59% is rather high and the environmental impact is indisputable. Although this number varies from company to company depending on its market and client portfolio, referring to environment issues, load passenger factor on empty flights should be generally increased **to ensure the highest possible extent of utilization**.

3.3.4 Seasonal patterns

Based on the data information from the previous subsection, chart 2 displays seasonal development of passenger flight hours on month-to-month basis between the years 2003 and 2007. As an overall trend, it is clear that the passenger sales had two peaks over the year, before and after summer.

In 2003, the sales were quite constant over the course of the year except for a sharp drop to zero flight hours in May. Also in June there has been no sales, which was due to continuous maintenance on the aircraft. However, July brought a steady rise until reaching a peak of 54 flight hours sold in September. In 2004, a similar trend can be noticed as in the year 2003, though maintenance in June did not take a long time and a fall towards November was more significant. The curve of the year 2005 illustrates a gradual decrease before plummeting to zero in April, again because of the maintenance reasons, and fluctuated around 33 flight hours throughout the second half of the year. The year 2006 brought even stronger up and down fluctuation for the whole period. There was a less dramatic movement in 2007, the last monitored year, with sales generally higher in the first six months.

Chart 2: Passenger flight hours 2003 - 2007



Altogether, the chart illustrates the **strongest passenger demand** before and at the end of summer, respectively in May and September. On the other hand, June and July were generally the weakest months of the year. Despite the fact that the aircraft was on scheduled maintenance three times over the observed period, this can be concluded for all the five years.

This outcome has been compared with a representative Eurocontrol survey³⁸, in which were gathered data from 23 EU member countries, that included the countries with strongest presence of business aviation, while excluding Baltic Estonia, Latvia and Lithuania as well as Poland. The monthly traffic patterns of business aviation mostly show a dip in demand in July and August, on the contrary with June and July from an Austrian operator compiled data. But June and September were increasingly the busiest months of the year in Eurocontrol chart, only a soft discrepancy in May but coherence in September with Austrian operator information. As can be seen, similar results were found by this comparison.

Having a variety of operators, seasonal patterns throughout the year differ. Individual companies in European Union member countries have versatile clients so generalizing across the whole business aviation segment about the diverse sales demand is difficult. However, one is certain and that is a significant reduction of flights in summer months. This is due to the fact that most businessmen have vacation for a few weeks during this period. Nevertheless, it may be summarized that in case of business aviation, the average itself can be misleading because there is so much variation from month to month.

3.4 Trends in aircraft models

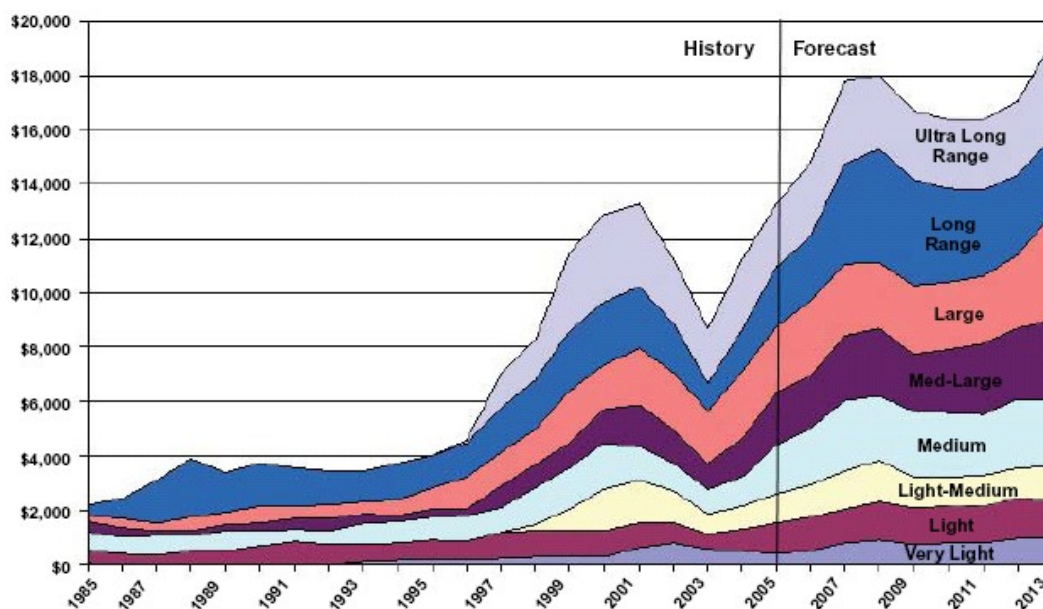
The United States of America has always been the biggest business aviation market. At the present time, the USA share 72% of business aircraft worldwide, by contrast with only 10% in the European Union³⁹. As more companies realize the efficiency and productivity of this powerful business tool, the popularity of business aircraft increases globally.

³⁸ Annex V displays business aviation movements in 23 EU countries.

³⁹ *Dassault aviation* [online]. [cit. 1st February 2008]. Available on WWW: <http://ec.europa.eu/transport/air_portal/internal_market/general_aviation/doc/dassault_aviation.pdf>.

Consequently **the world's business jet fleet is growing** clearly illustrated in chart 3. There are 1,700 business aircraft in Europe, while the American figure reached six times more - 10,100 business aircraft⁴⁰.

Chart 3: Business aircraft fleet outlook



Source: Honeywell, 2006

Anticipated growth indicates even bigger demand for professional crew. The pilot population in the USA remains fairly stable and the total of pilots available reaches 600,000, a figure being three times higher than in Europe (207,000)⁴¹. Traditionally, pilots head for the scheduled airlines first and afterwards head for business aviation.

Therefore, the **business aviation industry has to promote itself** and the advantages of working in business aviation to attract suitable candidates in the first place as well as to tackle the problem of experienced pilots defecting to the airline carriers. To resolve the pilot shortfall problem, the business aviation industry must act now, or it will find itself with serious difficulties in the very near future.

⁴⁰ *Business jet traveller* [online]. [cit. 10th January 2008]. Available on WWW: <<http://www.bjtonline.com/bjtonline/BJT%2007%20Media20Kit.pdf>>.

⁴¹ *International council of aircraft owner and pilot associations* [online]. [cit. 12th January 2008]. Available on WWW: <http://ec.europa.eu/transport/air_portal/internal_market/general_aviation/doc/iaopa.pdf>.

Innovation has always been a cornerstone of success for aircraft manufacturers. The **continuous development applies the latest concepts** to ensure greater comfort, more modern design, better performance and excellent reliability. The assessment of two quite opposite trends applicable to aircraft models follows.

3.4.1 Very light jets

The very light jets (VLJ), accommodating four to eight passengers, **attract entirely new corporate aviation market**. These planes are targeted at travel in the 350- to 900-kilometre range, a distance too far to be travelled conveniently by car, but in many parts of North America and Europe, a distance for which good value commercial charter options are severely limited.

The emergence of very light jets promises to make business aviation **accessible to a much larger customer base** of individuals for whom fractional ownership and leasing remain out of reach. In the late 1990s, the popularity of the early fractional ownership schemes rested largely on branding. Even if customers ended up paying twice as much for shared ownership as they would have done chartering the same aircraft on a flight-to-flight basis, many were won over by the embossed membership cards and illusion of possession. With the arrival of the VLJ, it is conceivable that business jets could soon complete the journey from lavish extravagance to business common sense. To make access to this new category of aircraft available to segments of the population not previously served by private jets new programs need to be invented and the future is sure to include some very interesting innovative business jet transportation concepts. Personally speaking, very light jets are a category comparable to low cost airlines that flooded the commercial aviation market in the last decade.

The affordability of very light jets is likely to be the key success. Sales price starts at 1 million USD⁴², amounting to 640,000 EUR at a current exchange rate. These very economic planes address an entirely different group of potential clients. Not only the wealthy individuals and company owners will have the privilege to use a business jet, but also the second and third management level of the enterprise⁴³.

⁴² *VLJ aircraft industry news and information* [online]. [cit. 1st March 2008]. Available on WWW: <<http://www.very-light-jet.com/vlj-comparison.html>>.

⁴³ Annex VI shows the percentage share of employees' types using a business aircraft.

Therewith small and medium sized companies have the possibility to travel with the business jet. Several very light jet models will be flooding into the market over the next few years. For instance the new Citation Mustang, as can be seen on figure 2, is on the best way to become one of the leaders in the VLJ segment of the business aviation market.

Fig. 2: very light jet Cessna Citation Mustang



Source: Cessna, 2008

Another favourable selling point for the very light jets is its **ability to land on shorter airstrips**, thereby accessing more airfields that are potentially less congested and closer to final destinations. Consequently, accessing a wider net of smaller aerodromes means a massive potential for the new kind of customer base.

3.4.2 Upper class segment

While smaller jets offer more flexibility with regards to utilizable airports, they do not offer much space and therefore the luxury inside them confines. This may quickly become a major drawback, once the route of choice is a long one, or when more people are carried on board. In this era of international commerce, **global leaders as well as larger groups of businessmen or representatives** need to fly farther, in comfort, be productive on route, and reach business destinations relaxed and refreshed. Increasing awareness of the benefits of upper segment jets is an important factor, as more potential customers see and experience these e.g. during air shows. Two biggest manufacturers, Boeing Business Jet and Airbus Corporate Jet have set new standards in the upper class business aircraft segment.

The **Boeing Business Jet's** spacious cabin with various amenities can be customised to meet individual or business requirements. The interior configuration installed by completion centres with interior designers can include an executive office, conference rooms, private offices and bedrooms. The BBJ is self-sufficient at airports with reduced ground support and limited facilities, due to the fact that they are supplied with built-in air stairs and easily loaded cargo holds. Consistently rated globally as one of the best corporate and VIP aircraft, **Airbus Corporate Jetliner** combines the largest cabin in its class with the reliability and performance and attributes its success to the greater comfort and space and also to the more modern designs. ACJs **appeal to governments** throughout the world. Concerning the EU, French and Italian Air Force have each two Airbus Corporate Jetliners in service, the Czech Republic has ordered two ACJs⁴⁴. The advantageous convertibility enables to transport army troops in daily operations and serving as a VIP transport when needed.

Because of its specifications, this aircraft segment, continues to be popular to a particular category of customers e.g. governments and wealthy private individuals.

3.5 Airport availability

The continuing popularity of business aviation sector is partly due to the fact that business jet aircraft have access to nearly 5,143 airports in the USA, compared with the 558 served by the scheduled air carriers. The European Union accounts for 1,991 aerodromes with paved runways, that business aviation may use, and 450 for scheduled carriers⁴⁵.

Business aviation is sometimes termed the ultimate timesaver for a good reason. This sector enables passengers to shorten their journeys to the bare minimum, typically by flying them from airport close to their home or office to the nearest possible landing point for their end destination. Therefore, the **ability to use smaller, less-congested airports located closer to one's final destination** is a vital part of the utility and flexibility of business aviation aircraft.

⁴⁴ *Aerospace Technology* [online]. [cit. 9th January 2008]. Available on WWW: <<http://www.aerospace-technology.com/projects/acj>>.

⁴⁵ *General aviation manufacturers association* [online]. [cit. 14th January 2008]. Available on WWW: <<http://www.gama.aero/events/air/dloads/2007GAMADatabookOutlook>>.

Operators of business aircraft prefer to function on these so called reliever airports instead of airline hubs. For such a company working up to three hours notice, smaller airports are in fact the only option. Therefore, **accessible regional airfields help the development of business aviation.**

Although there is relatively little business aviation transport when compared with the air carriers, business aviation generates more **unanticipated peaks of demand at short notice.** This is particularly true when the demand occurs during very specific periods, like business conferences or political summits. However, the busiest business aviation airports are not the same as those of air carriers.

In spite of the fact that much of the business aviation traffic is concentrated on the secondary airports and local aerodromes and airfields, it is sometimes necessary for business aircraft operators to access airports within the main network of the air transportation system. Business operators may need to land at main airports in order to provide connection to a scheduled airline flight for their clients. Also training of approach procedures can only take place at properly equipped airports.

Especially at regions there is the **need for infrastructure investments** to modernize and expand current airports, and thus respond to the urgent need to build aviation transportation systems that are vital to support continued growth.

3.5.1 Regional expansion

Illustrative example from the Czech Republic will help to assess the possibilities of further development of regional airfields in the EU. According to a yearbook published by Czech Ministry of Transport⁴⁶ in 2006, there are in total 90 airports in the Czech Republic. Nine of them are international airports, whilst the remaining are either for domestic, or in just a few cases, for military use only. Airport České Budějovice in South of Bohemia, originally designed mainly for military air forces transportation, has opened for light aircraft category in April 2006, and a year later has been granted an international aerodrome licence.

⁴⁶ *Transport yearbook 2006 Czech Republic* [online]. [cit. 8th March 2008]. Available on WWW: <http://www.sydos.cz/cs/rocnka-2006/yearbook/htm_uk/index.html>.

Presently negotiations are being held to operate heavier aircraft. **Modernization of the airport partly financed from the EU funds** is in progress so that the region expansion can be further pursued. The hopes of the municipality and regional councils are that from such a connection with the world, citizens, businesses and consequently the economy of the area will profit. Residents of the neighbouring Austrian Waldviertel County can also benefit from airport České Budějovice⁴⁷ as it is the closest one for them. Besides the region will profit from a number of business aviation flights during the Czech Presidency of the Council of the European Union in the first half of 2009.

This was just one illustration of **how much influence the airport availability has on the regional expansion**. An upward trend of business passengers in the Czech Republic can be clearly seen in table 5. Total business aviation transport between the years 2001 and 2006 has virtually doubled.

Table 5: Business aviation transport in Czech Republic
(included are only Czech companies)

	2000	2001	2002	2003	2004	2005	2006
Total business passenger transport (in thousands)	3,483	3,946	4,291	4,584	5,750	6,330	6,710
- international	3,449	3,894	4,243	4,531	5,687	6,249	6,601
- domestic	34	52	49	53	63	81	108

Source: Ministry of Transport Czech Republic, 2006

Moreover domestic transport growth has in fact tripled during this period. Business aviation sector has managed a significant 25 per cent year-on-year increase in the year 2004 compared to the year 2003, which can be connected with the accession of the Czech Republic to the European Union in May 2004. It will be interesting to see how these figures will develop in time to come, however it may be summed up that business aviation segment is on substantial rise also in EU regions.

Other regional parts of the European Union, **particularly new EU members**, where investments from the old EU members have only just started and the potential is therefore massive, should also **advance the possibilities they have got to prosper from business aviation**.

⁴⁷ *Airport České Budějovice* [online]. [cit. 27th February 2008]. Available on WWW: <<http://www.airport-cb.cz/about.php>>.

3.5.2 *Business aviation vs. airline flying*

Referring to chapter 1, active users of business aviation in the USA still spend quite a substantial amount of money on scheduled airline travelling. On this assumption, **business aviation complements rather than competes with scheduled airlines**. Observing such an example led to a trail in two directions that the European Union business aviation operators could follow to make a profit.

Firstly, **new market possibility found is the cooperation** of a scheduled airline and business aircraft company. In this case an exclusive convenient service is offered to business travellers: any passenger, that books business class ticket on a long haul flight, can be picked up by business jet at his nearest airfield to fly directly to the airport, from which his scheduled flight continues to the final destination.

Alternatively vice versa marketing strategy can sound like this: with a business jet booking the extra benefit client gets is a long haul ticket. For instance Jet Alliance, successful business jet operator, has managed to make a deal and became a partner of Austrian Airlines. An example of a small group including three business travellers wants to fly from Poland to China can be considered. There is a direct airline connection from Vienna to Peking. Krakow is the nearest airport for Polish businessmen, the choice is to get to Vienna either six hours drive by car, other means of transportation, or preferably instead to take 45 minutes transit by jet (i.e. Cessna Citation XLS quoted⁴⁸ the price of 9,000 EUR per aircraft; divided by three travellers costs 3,000 EUR per person; however this aircraft accommodates eight passengers so in case of full occupancy this amount splits-up in a reasonable 1,125 EUR).

In the second place, an upcoming trend rapidly changing the landscape for international business transportation is **a group of scheduled flights with business class only**, seating 44 to 100 passengers. This is the segment of general aviation overlapping with business aviation. On all-business flights travellers can use less crowded VIP terminals and get to the airport just 45 minutes before departure. What's more the fares are low cost in comparison with international airline charges for standard business class. The originator of the idea was Lufthansa 5 years ago.

⁴⁸ *Austrian business jet: destination and prices* [online]. [cit. 1st March 2008]. Available on WWW: <<http://www.aua.com/at/eng/Austrian/businessjet>>.

Since the concept has proven itself, other carriers quickly followed. They fly mostly on transatlantic routes i.e. from New York to London Eos Airlines, to Paris L'avion except for The Fine Print that operate to the US from Singapore and Silverjet connecting London-New York as well as London-Dubai⁴⁹. Is this a competition of business aviation? Not really. It is a part of business aviation segment and great marketing idea serving to a specific type of business passengers purely on scheduled long haul routes. These business travellers need to arrive for business meeting overseas refreshed and save time. And this concept enables it.

⁴⁹ PERKINS, E. *All business class airlines offer flights to Europe* [online]. [cit. 2008-01-27]. Available on: <<http://www.smartertravel.com/travel-advice/all-business-class-airlines-offer-cheap-flights-europe.html?id=2390240>>.

4 DISCUSSION ON POTENTIAL DEVELOPMENT TRENDS

In compliance with results of the analysis within the Chapter 3, various aspects for business aviation growth in the European Union will be discussed in this section. From the information this report demonstrates, following facts have become apparent.

The United States of America have *more business aircraft, operators, pilots as well as airports for business aviation use*. In regards to the geographical size, the higher utility of business aviation is in the USA. Business aircraft there often connect distant locations. This illustration is opposed to the European Union, where the geographic area is half of the United States of America and remote places are limited.

However, in the European Union, there are *six times less business aircraft and seven times less operators* than in the United States of America, which including a higher population density indicates to **a conceivable room for the expansion in the EU**.

From economic point of view, on account of American dollar losing its value, consequently **the strong Euro contributes as an incentive** for European Union companies and individuals to *support purchases of new and used aircraft*, since most manufacturers and second hand aircraft for sale are *located in the USA*.

More business aviation customers in the European Union realize the attractive outcome of **purchasing their own aircraft**, which brings fewer flight hours and therefore less business for charter companies. Starting in 2008, new aircraft will be delivered to private owners and organizations that have made a booking in the past few years. However, the aircraft producers are due to backlogs are unable to manufacture the ordered planes quick enough to satisfy the client's demand.

It is predicted that these aircraft deliveries will continue until 2011 and therefore charter agencies will thereupon loose their previous clients. It is not easy to prevent this envisage. There are business aviation customers that view the option of possessing own jet as far too much of a responsibility and commitment, while many new aircraft proprietors have been persuaded by such a choice.

Charter companies need to spread the risk factor and take the opportunity of the currently still growing aviation market place and learn to occupy specific roles, where aviation expertise and experience are critical success factors. That is why they should either try to maintain their existing clients by offering them appropriate facilities plus something extra that competition firm is lacking or look for substitute markets. Otherwise, the business decline can be prevented if the chartering companies *concentrate on specialised aircraft management services* that are more personalized i.e. offering wider scale of products, such as maintenance and consultancy.

A bigger investment would present to build their own service centre based at close by small regional airport, thus bringing additional facilities for their business aviation customers. These may include hangar storage, catering and other ground handling services at the airport. As a result, this investment would support growth at these local airfields, which would therefore bring a positive effect in creating new employment opportunities, attracting other investors to the region and with that more business travellers as operator's new aircraft chartered clients. In short, the business aircraft operator profits and the airport development *boosts the economy in the surrounding area.*

A few of the newly established firms already enter the business aviation market by introducing a business plan that has got the innovation to succeed, like concentrating primarily on offering the ferry flights, aiming at the newly coming aircraft trend, very light jets or another viable business option, fractional ownership.

In regard to the aircraft model trends, a market potential of very light jets indicates the *convenience of a low start-up capital* and business opportunity to capture a higher number of customers that are more easily able to afford chartering such an aircraft. **Very light jets attract much wider portfolio of potential clients,** due to the *affordable price.* What's more, very light jets are able to land on shorter runways resulting in a *higher number of used airfields,* plus they are more *economic on shorter distance flights,* which in the European Union, being geographically half the size than the United States of America, such routes are anyhow generally mostly operated.

Concerning numerous ferry flights awaits the possibility of **business aviation niche market**. Offering the opportunity to use the ferry flights at a reduced price in a company portfolio would be *beneficial for the aircraft operators and its clients, aircraft owner as well as for the environment*. Even if the desired passenger route does not fully coincide with the empty leg route of an aircraft, but the general direction is the same, the charter company willing to reach an agreement can make necessary changes. In this way, a flexible air taxi firm would acquire more clients. And yet, if it is to be a direction and not only a first improving step, regulation should be *implemented „en masse“ in the EU resulting in as high as possible aircraft occupancy*.

Seeing such a sharp rise of fractional ownerships in the USA in the past twenty years, gives chance not to miss as an option for business aircraft operators in the EU. A prediction supporting an upward trend in **gaining new fractional customers** is as a result of business travellers *swapping from airline travel to business aviation*. This is for the reason that scheduled flying becomes frequently perceived as more and more inconvenient, time consuming and unpleasant. Also fractional ownership *clients have got priority rights* over charter clients and jet card owners, in choosing itinerary and preferable date of flight. In short, fractional ownership continues to be a major contributor to the growth of business aviation because it *extends the advantages of business flying to new coming customers*. Therefore, a grand opportunity for the development of this travellers' option in the EU is visible.

Due to the recent wealth of the Russian economy, new European Union member countries (i.e. Bulgaria and Romania) are geographically situated in an advantageous position to exploit the newly expanded Russian market. Obviously this is not beneficial to the old members of the EU. From the opposite side of the discussion, if there is not the correct **infrastructure at the local airports** of the better-located EU countries, then they will unfortunately miss out on this lucrative business opportunity. However, the *EU funds can help to finance the regeneration of these regional aerodromes*.

As can be seen in the calculations in Table 1, the number of scheduled airlines landing facilities is by over one hundred more in the United States of America than in the European Union. The geographical area of the EU is however half size than

in the USA, which indicates **sufficient opportunities for the cooperation of business aviation with scheduled airlines** as concluded in subsection 3.5.2. The comfortable tailor-made service ensures the transfer time as short as possible. On top of that, both sides will prosper from this partnership. An international carrier *attracts its passengers by even more comfort and jet operator catches a new portfolio of customers, along with a great advertising* for the involved parties. Growth of group of flights with all business class seats supports the Open Skies agreement between the USA and the EU, which liberalizes market access. This in turn creates new investment opportunities and thus makes the advancement of this sector even more possible. Both of these market trends have its place in European business aviation. It can be concluded that *business aviation and scheduled airline traffic support each other and introduce even wider portfolio* for their existing as well as potential customers.

There are however some **obstacles to business aviation growth in the EU**. In particular *lack of appropriate airfield infrastructure* is a challenge. Moreover, as with other aviation segments, there are questions about the prospect of increasing *environmental regulations* and on *future fuel prices*, but business aviation seems likely to be less price-sensitive than the lower cost end of air travel.

From the research, it can be further concluded, that **body representing interests of business aviation** on the European Union level is missing. The European Commission has only recently started to be engaged in business aviation more closely. For that reason there is an open *space for the EU, as this front leading organization overseas in other areas*. A lot still needs to be done to allow business air transport to fulfil its potential, though the European Union is set to pursue these ambitious goals.

CONCLUSION

In summary, as evidence in this paper shows, business aviation provides tremendous economic and social benefits and a high potential for the development of business aviation in the European Union is expected.

Except for the very wealthiest individuals, business aviation can no longer be justified as a status symbol or an extravagance, as it so often was in the 1990s. This is particularly true in the EU, where business aviation was once widely perceived as a luxury but is increasingly seen by businesses as a useful tool improving productivity.

Business aircraft are more flexible than airlines because they fly direct according to a self-determined schedule, closer to the ultimate destination of the business traveller. They enable large savings in travelling time.

In the current market situation the charter companies continue to have good opportunities to sell their hours. But in the future, their business will more depend on the aircraft portfolio, quality and structure of their services.

Undeniable is business aviation support of the regional areas, thus bringing advantages to the community at a local level. In an environment of steady economic growth, the business aviation industry will continue to thrive and to play a central role in bringing people together, facilitating economic activity, creating jobs and furthering prosperity in the European Union member countries. The ultimate aim for the business aviation industry must be a sustainable development, where the environment is not sacrificed for growth and future generations will be able to continue benefit from air travel.

Business aviation is a growing area of the flight industry, which will progress in the foreseeable future within the European Union.

BIBLIOGRAPHY

1. ABOULAFIA, R.: Business jet market overview: Fractional ownership changes the world. *World Aircraft Sales Magazine*. Surrey: World Aviation Communication Ltd., June 2005.
2. *Aerospace Technology* [online]. [cit. 9th January 2008]. Available on WWW: <<http://www.aerospace-technology.com/projects/acj>>.
3. *Airbus: executive and private aviation* [online]. [cit. 15th November 2008]. Available on WWW: <http://www.airbus.com/en/aircraftfamilies/executive_aviation/acj_family/comfort.html>.
4. *Aircraft charter holding reservation system* [online]. [cit. 20th February 2008]. Available on WWW: <<http://aircharter.echarterconnect.com/aircharter/eCharter/build/start.jsp>>.
5. *Airport České Budějovice* [online]. [cit. 27nd February 2008]. Available on WWW: <<http://www.airport-cb.cz/about.php>>.
6. *Air Charter agency* [online]. [cit. 12th September 2007]. Available on WWW: <<http://www.charteragency.com/getstarted.php>>.
7. *Air Transport Action Group initiative* [online]. [cit. 4th December 2007]. Available on WWW: <<http://www.enviro.aero/EmissionsTrading.aspx>>.
8. *Austrian business jet: destination and prices* [online]. [cit. 1st March 2008]. Available on WWW: <<http://www.aua.com/at/eng/Austrian/businessjet>>.
9. *Aviation business index* [online]. [cit. 15th February 2008]. Available on WWW: <<http://www.aviationbusinessindex.com/summary.asp?sub=MC>>.
10. *Bombardier manufacturer* [online]. [cit. 25th February 2008]. Available on WWW: <http://www.bombardier.com/en/0_0/0_0_1_7/0_0_1_7_8/pdf/NBAA+Business+Aircraft+Analyst+Meeting.pdf>.
11. *British Business and General Aviation Association* [online]. [cit. 18th August 2007]. Available on WWW: <<http://www.bbga.aero/industry.html>>.
12. *Business jet traveller* [online]. [cit. 10th January 2008]. Available on WWW: <<http://www.bjtonline.com/bjtonline/BJT%2007%20Media20Kit.pdf>>.
13. *Central Intelligence Agency* [online]. [cit. 7th December 2007]. Available on WWW: <<https://www.cia.gov/library/publications/the-world-factbook>>.

14. CLAY, L. Business aviation continues to soar [online]. *Los Angeles: Business journal*, 2005. [cit. 2007-11-18]. Available on: <http://findarticles.com/p/articles/mi_m5072/is_47_27/ai_n15932717>.
15. *Communication from the European Commission: An agenda for sustainable future in general and business aviation* [online]. [cit. 12th January 2008]. Available on WWW: <http://ec.europa.eu/transport/air_portal/internal_market/general_aviation/doc/en.pdf>.
16. *Dassault aviation* [online]. [cit. 1st February 2008]. Available on WWW: <http://ec.europa.eu/transport/air_portal/internal_market/general_aviation/doc/dassault_aviation.pdf>.
17. *European Aviation Safety Agency* [online]. [cit. 8th January 2008]. Available on WWW: <http://www.easa.eu.int/home/g_environ_challenges.html>
18. *European business aviation association* [online]. [cit. 10th August 2007]. Available on WWW: <http://www.ebaa.org/content/dsp_page>.
19. *Flying together – EU Air transport policy*, Luxembourg: Office for Official Publications of the European Communities, 2007. 16 p., ISBN 92-79-03455-3.
20. *General aviation statistical databook & industrial outlook GAMA 2007* [online]. [cit. 14th January 2008]. Available on WWW: <<http://www.gama.aero/events/air/dloads/2007GAMADatabook Outlook>>.
21. *German business aviation association* [online]. [cit. 10th August 2007]. Available on WWW: <<http://www.gbaa.de>>.
22. *International aircraft owners and pilots association Europe* [online]. [cit. 9th February 2008]. Available on WWW: <<http://www.iaopa-eur.org/pid1000595.html>>.
23. *International civil aviation organization* [online]. [cit. 15th July 2007]. Available on WWW: <http://www.icao.int/icao/en/atb/epm/Arfm/Study_BusinessAviationAccess.pdf>.
24. *International council of aircraft owner and pilot associations* [online]. [cit. 12th January 2008]. Available on WWW: http://ec.europa.eu/transport/air_portal/internal_market/general_aviation/doc/iaopa.pdf>.
25. JOYCE, M. Corporate aviation's smooth landing. *CNBC European Business*. London: eSubstance Ltd., June 2007.
26. MCBAIN, I. Owning your own aircraft. *Altitudes*. Cannes: Luxmedia Group, April/May/June 2007.

27. *National business aviation association* [online]. [cit. 12th December 2007]. Available on WWW: <<http://web.nbaa.org/public/about>>.
28. PERKINS, E. All business class airlines offer flights to Europe [online]. [cit. 2008-01-27]. Available on: <<http://www.smartertravel.com/travel-advice/all-business-class-airlines-offer-cheap-flights-europe.html?id=2390240>>.
29. PERON, S. Record setting convention. *Altitudes*. Cannes: Luxmedia Group, January/February/March 2007.
30. *Presentation to the Group on international aviation and climate change by International Business Aviation Council* [online]. [cit. 18th February 2008]. Available on WWW: <<http://www.icao.int/env/meetings/Giacc/Ibac.pdf>>.
31. SHARKEY, J. Security is looser on corporate aircraft [online]. *New York: The New York Times*, 2003, [cit. 2008-01-12]. Available on: <<http://query.nytimes.com/gst/fullpage.html?res=9406E4D71E31F93BA15753C1A9659C8B63&scp=1&sq=Security+Is+Looser+on+Corporate+Aircraft+&st=nyt>>.
32. SHEEHAN, J. *Business and corporate aviation management*. New York: McGraw Hill Professional, 2003. 330 p., ISBN 0-07-141227-1.
33. *Shifting market shares among the manufacturers* [online]. [cit. 20th December 2007]. Available on WWW: <<http://www.planemarkets.com/businessjets.htm>>.
34. SHVYDKIN, A. Dassault Aviation is increasing manufacture of Falcons, Growing planes. *Jet Business & Aviation*. Moscow: Jet Media Ltd., 2007.
35. SWICKARD, J. Intelligence. *Aviation week Business & Commercial Aviation*. New York: The McGraw-Hill Companies, March 2007.
36. *Transport yearbook 2006 Czech Republic* [online]. [cit. 8th March 2008]. Available on WWW: <http://www.sydos.cz/cs/rocenka-2006/yearbook/htm_uk/index.html>.
37. *United States mission to the European Union* [online]. [cit. 16th December 2007]. Available on WWW: <http://useu.usmission.gov/Dossiers/Open_Skies>.
38. *VLJ aircraft industry news and information* [online]. [cit. 1st March 2008]. Available on WWW: <<http://www.very-light-jet.com/vlj-comparison.html>>.
39. WELCH, J. Trends in business aviation: The market. *Fly & style*. Vienna: Sepia Media Consultingges.m.b.H., February 2007.
40. WYNBRANDT, J. Playing the jet card. *Business Jet Traveler*. New Jersey: The Convention News Co., October/November 2007.

ABBREVIATION INDEX

A/C	-	aircraft
ACJ	-	Airbus corporate jet
BBJ	-	Boeing business jet
EASA	-	European Aviation Safety Agency
EBAA	-	European business aviation association
EC	-	European Commission
e.g.	-	exempli gratia, for example
est.	-	estimated
etc.	-	et cetera, and so on
ETS	-	emission trading scheme
EU	-	European Union
EUR	-	Euro
FAA	-	Federal aviation administration
GAMA	-	General aviation manufacturers association
GBP	-	British pound
GDP	-	Gross domestic product
IBAC	-	International business aviation council
ICAO	-	International civil aviation organization
i.e.	-	id est, that is
NBAA	-	National business aviation association
p.a.	-	per annum
PAX	-	passenger
SES	-	single European sky
UK	-	United Kingdom
USA	-	United States of America
USD	-	American dollar
VAT	-	value added tax
VLJ	-	very light jet

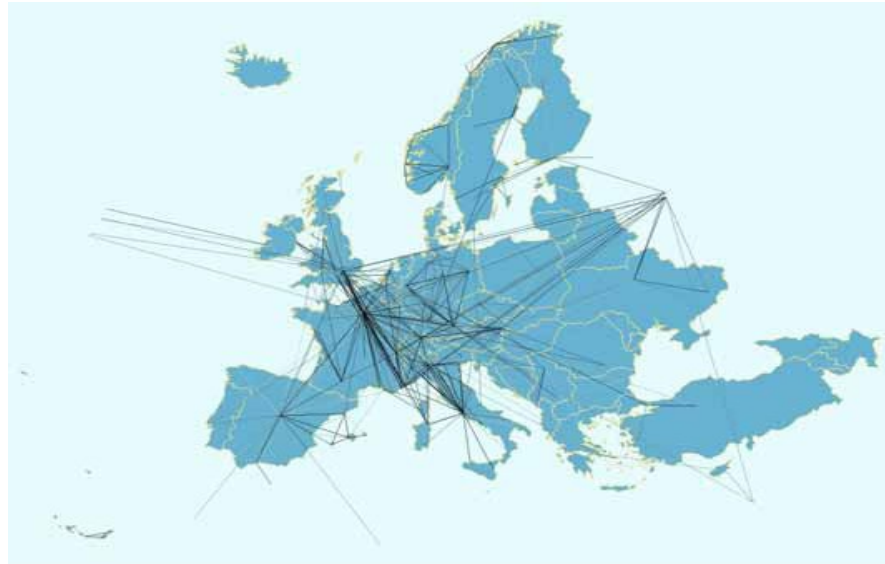
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ANNEXES

ANNEX I

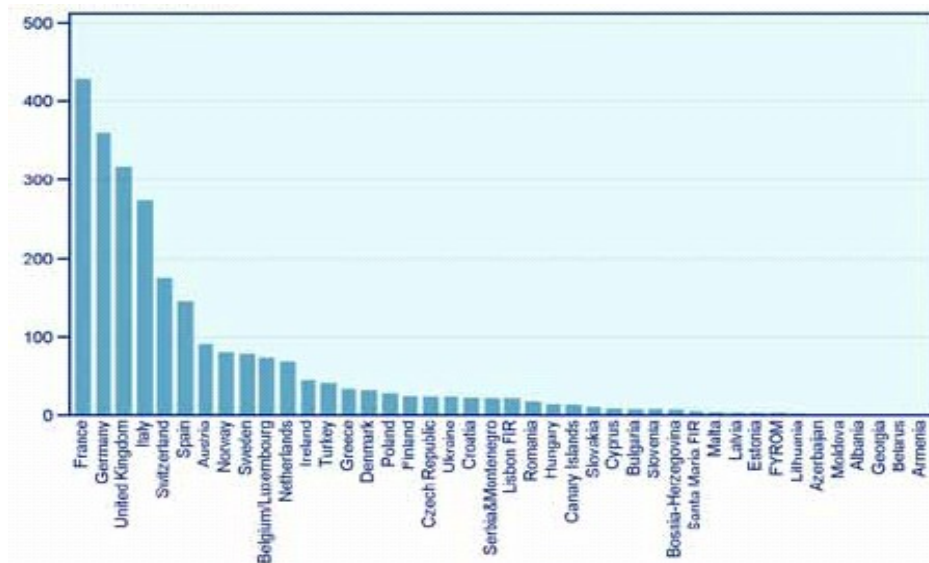
Fig. 3: Business aviation routes in Europe



Source: Eurocontrol, 2006

ANNEX II

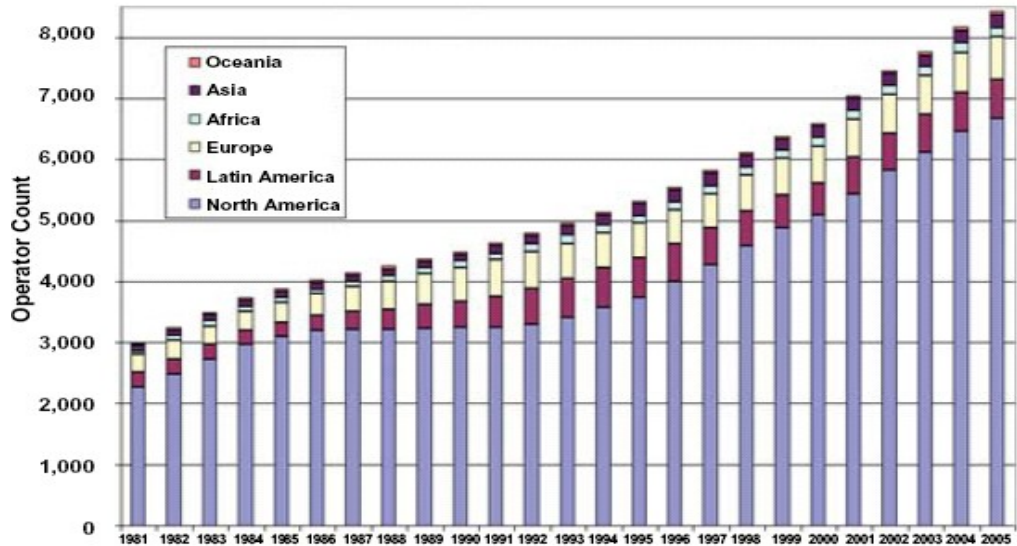
Graph 4: Business aviation movements in European countries



Source: Eurocontrol, 2006

ANNEX III

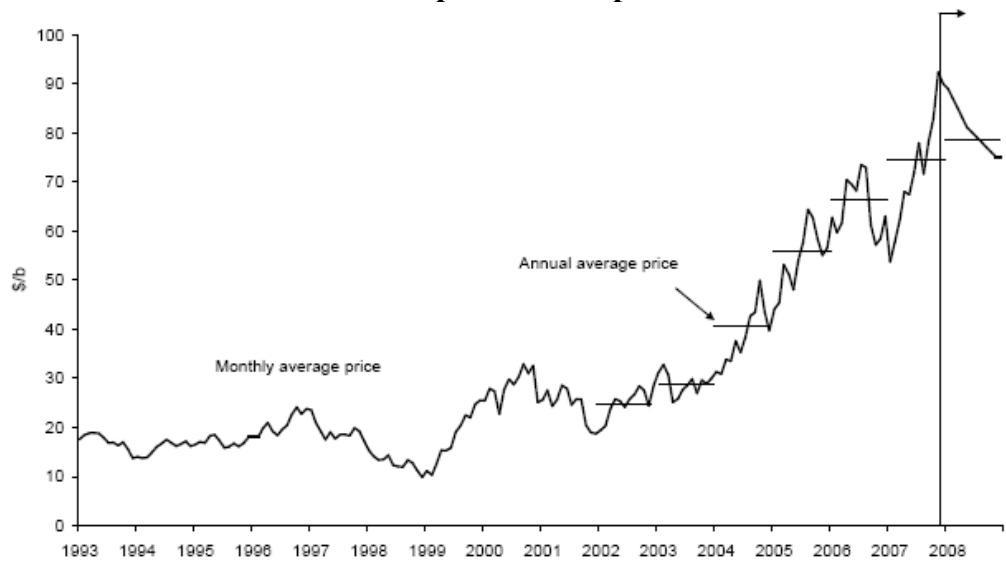
Graph 5: Business aircraft operator base



Source: Honeywell, 2006

ANNEX IV

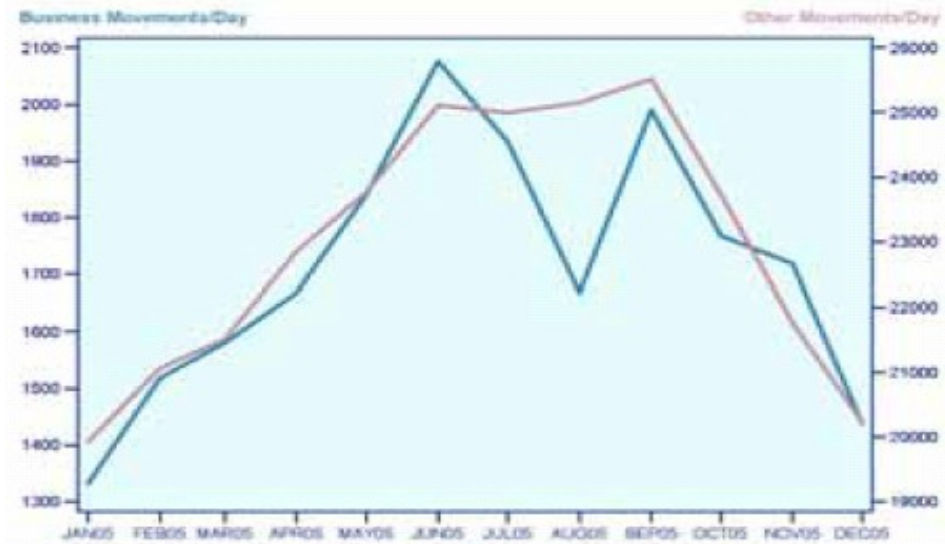
Chart 5: Oil prices development



Source: International Air Transport Association, 2007

ANNEX V

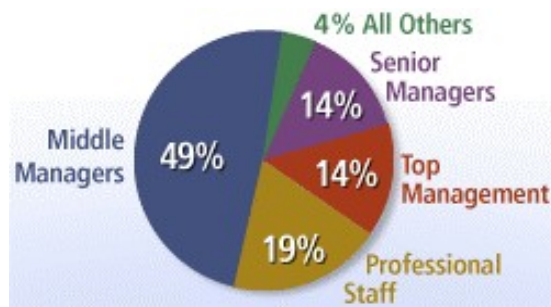
Chart 4: Month-to-month business flight variety



Source: European organization for the safety of air navigation, 2006

ANNEX VI

Chart 6: Types of employees on business aircraft



Source: General Aviation Serving America, 2007

ABSTRAKT

GIBSON, H. *Studie trendů v obchodní letecké přepravě na území Evropské Unie : bakalářská práce*. České Budějovice : Vysoká škola evropských a regionálních studií, o. p. s., 2008. 57 s. Vedoucí bakalářské práce doc. Ing. Darja Holátová, Ph.D.

Klíčová slova: dopravní letecká společnost, letiště, obchodní cestující, obchodní letecká přeprava, letová hodina, obchodní letoun, podíl na vlastnictví, pronájem letadla, provozovatel, správa letadla, výrobce letadel.

Práce se zabývá problematikou provozu obchodních letadel. Praktická část obsahuje systematickou analýzu předpokladů růstu tohoto dopravního sektoru na území Evropské Unie, která je provedena komparací s trhem ve Spojených státech amerických. Na základě výsledků výzkumné části jsou navrženy trendy vývoje v oblasti letecké přepravy v Evropské Unii. Data jsou pro přehlednost prezentována pomocí grafického zobrazení a v dalším textu vyhodnocena.

ABSTRACT

GIBSON, H. *Study on business aviation traffic trends in the European Union : graduation theses*. České Budějovice : The College of European and Regional Studies, p. b. c., 2008. p. 57. The supervisor of the graduation theses doc. Ing. Darja Holátová, Ph.D.

Key words: air charter, aircraft management, aircraft manufacturer, airport, business aircraft, business aviation, business traveller, flight hour, fractional ownership, operator, scheduled air carrier.

The essence of the study is business aviation segment. Practical part contains a systematic analysis of reasons for growth in the European Union. A comparison with the business aviation market in the United States of America results in a determination of potential development trends in the European Union. The gathered data are interpreted in graphic illustrations and further discussed.