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DEVELOPMENTS IN LOW COST AIRLINES – AN EMPIRICAL STUDY OF HOW SHARE PRICES ARE AFFECTED BY CERTAIN AIRLINE CHARACTERISTICS

by

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dedicated to my parents,

for all their love and support all the way

ABSTRACT

Low-cost carriers (LCCs) and in particular, the European brand, have been changing the course of the airline history in and above the continent. The "no-frills" companies, as they are known, such as *easyJet* and *Ryanair* have made middle-destination travel by air as easy and cheap as travelling by train the same distance and have contributed to developing new strata of consumers.

First considered a joke or nothing more than a fad, low-cost airlines have entered the European market and still withstand the competition forces. More than that, growing by 100% a year, these companies now represent almost 10% of the market on the continent, hoping to increase their share to 25% by 2010. More and more budget companies have been born in the recent months from Scotland in the west to Slovakia in the east. Their most important weapon is low price, starting from as low as $15-20 for a single flight.

Many low cost airlines have not found it difficult to commence business at cost levels lower than those of their established competitors. With a few exceptions the latter have embarked on comprehensive cost cutting and managed to lower initial cost differentials. As a number of low cost carriers have started to enhance their products with additional frills (while traditional carriers are now offering simpler products) the competitive position of some of the low cost airlines is likely to face a challenge

This paper addresses and tries to solve a regression equation that uses a number of variables that form part of the characteristics of the Low Cost Carrier model, in order that a determination may be made to establish a linkage between these variables and price fluctuations of their respective equities. Our model and methodology conclude that over the past seven years variations have been observed in the FTSE. However, we suggest that more research, on the drivers of changes in expected share prices be carried out as a further improvement of our understanding of the airline industry and respective underlying macroeconomic trends.

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INTRODUCTION

In the course of the last thirty years the volume of global airline passengers has increased six fold. Currently some one billion passengers travel by air annually. Historically, growth in the aviation industry has often been limited by restrictive governmental legislation. In recent times, however, the deregulation of the aviation industry has encouraged underlying competition among airlines.

In this innovative competitive, environment new structures and strategies are emerging as reflected by the activities of the low cost carriers (LCCs) or low cost airline, or simply 'No-Frills' airlines. In the USA during the eighties, '*Southwest Airlines*' held a predominant position in these observed developments. Similarly, after the European aviation deregulation process began in 1991, the Irish airline '*Ryanair*' excelled to be followed by other airlines such as *easyjet, Go-fly, germanwings*, or *Buzz* as they competed for the market share and passengers successfully triggering a downright aviation boom.

The focus of chapter 1 is thus to offer a concise survey on theses dramatic developments exemplified by the European LCC market. In chapter two a literature review is conducted and section three subsequently, illustrates the major characteristics of the LCC business model. Chapter four forms the basis of the empirical study and investigates how certain characteristics of low cost carrier within the airline industry will have an effect on its' share value with particular emphasis on two of the major European LCCs: *Ryanair* and *easyJet.* For purposes of making comparisons two conventional airline have been used – *British Airways* and *Lufthansa.* This paper ends with the discussions and conclusions of the current economic climate and it's effects on the airline industry, highlighting what effects the results of this research has on LCCs.

1 Low Cost Airlines

1.1 Introduction

More than 36 years ago, Rollin King and Herb Kelleher got together and decided to start a different kind of airline. They began with one simple notion: If you get your passengers to their destinations when they want to get there, on time, at the lowest possible fares, and make darn sure they have a good time doing it, people will fly your airline. And you know what? They were right. (Southwest Airlines Website - 2007)

What began as a small Texas airline has grown to become one of the largest airlines in America. Today, *Southwest Airlines* flies almost 100 million passengers a year to 63 great cities all across the country.

The success and profitability of *Southwest's* business model led to a common trend being named after the company: The *Southwest Effect*. Since *Southwest's* original mission in Texas was to make it less expensive than driving between two points (in the early 1970s, during the first major energy cost crisis in the U.S.), it developed a template for entering markets at rates that allowed the airline to be profitable, yet only on the basis of lean operations and high aircraft use. The key concept to the *Southwest Effect* is that when a low-fare carrier (or any aggressive and innovative company) enters a market, the market itself changes, and usually grows dramatically. For example, when fares drop by 50% from their historical averages, the number of new customers in that market may not just double, but actually quadruple, or more.

Southwest has been a major inspiration to other low-cost airlines, and its business model has been repeated many times around the world helped in great parts by the wake of air traffic deregulation. Europe's *easyJet* and *Ryanair* as well as Canada's *WestJet*, are some of the best known airlines to follow *Southwest's* business strategy in that continent (though *easyJet* operates two different aircraft models today). Other airlines with a business model based on *Southwest's* system include New Zealand's *Freedom Air* , and Malaysia's *AirAsia* (the first and biggest LCC in Asia) and Thailand's *Nok Air*.

1.2 Development of the Low Cost Product

Put it into simple language a low cost airline in the classic and original sense of the term is a provider of a basic product. This is also captured by the term *no frills airline*. *Ryanair* is the airline that to this day pursues this concept with the highest degree of consistency. The basic product dispenses with any frills and seating comfort is minimal. Traditional carries offer transport categories "Economy" and "Business", typically for short-range and intra-continental routes. Economy represents the standard product, Business being the premium product. For a novel development in intra-continental traffic, a new class of product has been developed offering a more improved service elements to the former basic product, while belonging to a quality category that is still below the level of the traditional standard product. Presently, this is where the most significant change is taking place.

This product segment is occupied, for one, by classic low cost entrants offering a basic product but has moved on to providing additional service elements or frills, such as frequent flyer programmes (first introduced by *Layer Airways*). Transitioning from a "low cost/no frills" to a "low cost/few frills" product is tantamount to shifting from the basic product to a budget product. Therefore, lost cost airlines comprise all carriers that offer either a basic or budget product.

As a response traditional carriers have taken an approach that modifies their standard product to a budget, by eliminating or cutting down on service elements. For example the range of on-board catering may be reduced, or there may be a switch to on-board sales of food and beverages. This is a move Austrian Airlines made in establishing Bistro Service in the Economy Class. Another variant is to make lower ticket prices contingent on more restrictive rebooking options. Adopting either one or a combination of these options, most of the traditional airlines have already a budget product in place to respond to the challenge by LCCs.

In recent years an image created by LCCs, is one which usually signifies low-fares and as such by advertising low prices they have come to be known as discounters. However, it should be noted that only part of the overall seat capacity is sold as cut down prices. In other words LCCs also depend on a mix of passengers attracted to by bargain prices and others accepting higher prices. Nevertheless, the average yield from ticket sales is declining. This is because consumers have been used to low prices for a considerable time and in deciding on further bookings, typically form expectations based on most recent ticket prices. (Friesen, 2006)

Hence, LCCs- more then ever – require additional income from sales on board and on the ground. On board sales are likely to decline in significance , since airports specialised on serving LCCs offer customers victuals before departure. Therefore, new sources of income need to be tapped – such as higher luggage allowance. By the same token, passengers may be granted a pre-boarding option fee, which will enable them to make (and take), their choice of seat, rather than queue for non-allocated places.

The original concept of LCCs was that their economies of scale would best be suited to short-haul routes. However, is there a low cost proposition for long-range routes? Conceivably, a two tier approach where a low cost airline's more sophisticated offer in the sector will be below the standard characteristics of a traditional carrier's premium product, namely, first class travel. This approach is not altogether novel, as traditional charter carriers have already been pursuing the long-haul market for a considerable time. What makes the proposition interesting from the LCC perspective is that they focus on highly frequented routes with a large proportion of point-to-point traffic and business travellers. Among the new 'pretenders' that have appeared as LCCs in the long-haul distance sector in recent years is *Zoon Airways,* c2000. The airline connects Canada – London – Paris, among other destinations. The other addition is Hong Kong's *Oasis Airlines* October 2006). Both carriers refer to themselves as "low fare" airlines. So far it is difficult to judge whether these will remain exceptional offers or whether they represent the prelude to more significant changes in the long-haul sector.

Raymond Lee, founder of Oasis, argues that the long-haul budget model is more cost-effective. By flying longer distances the company saves fuel because the aircraft make fewer take-offs and landings- which use more fuel (Lau, 2006). One of the biggest disadvantages of LCCs is huge cost of fuel on landings and take offs in a short haul flight. If this model is extended on longer haul flights, low cost carriers can make more profit within a reasonable fare prices. Coupled with the addition of a few premium services can make it even more attractive, such as two classes, assigned seating, complimentary meals and entertainment, frequent flyer programs and baggage interlinking for international connections which *Jetstar* (the no-frills subsidiary of Australia's Qantas) is plans do introduce by January 2007. (Lau, 2006)

There are factors in the nature of long-haul flights that reduce or cancel out some of the advantages of LCCs. For example, faster turn-arounds can make a huge difference in the number of flights possible in a short segment but is of less significance in flights that take over, say, 6 hours. A successful long haul start-up would need a much larger investment to obtain long-range airplanes. The expected resistance from conventional carriers would also be very strong - leading them to use large wide body jets to hold off LCC competition - as they see long haul routes as their only remaining source of profitable business. A more promising approach for LCCs might be through the formation of alliances where each LCC feeds in to another LCCs routes thus enabling global coverage to occur.

The formation of global alliances is a strategy already in use by conventional carriers. It is based on the recognition that almost 80% of the world air travel market will soon be based on six major markets in the world - North America, Europe and the Pacific region plus the markets that flow between them. However, global alliances mean that new entrants must compete with several airlines on any given route, and the amount and price of cheap capacity being offered by those airlines is adjustable since antitrust legislation is often lacking.

In addition, alliances seem to go against the aggressive competition among themselves practiced by LCCs. Global alliances are usually based on an equity alliance. This is where both partners in the alliance take out a share in the other company. This obviously strengthens the ties between them and may even lead to each company having a seat on the Board of the other company. It is hard to imagine LCCs cooperating in this way.

1.3 AIR TRAFFIC REGULATIONS CONTINUE TO DEFINE THE GAME.

In principle, low cost airlines have benefited from deregulation in national air traffic markets and from the liberalisation of international air traffic agreements. Indeed *Ryanair* may not have survived had not the UK and Ireland agreed on liberalising aviation convention in the mid-80s. This *Ryanair* in a position to succeed with its low coat approach on the London-Dublin “racetrack”.

However, there are other issues in aviation regulation that are of importance to the future of low cost airlines. One of the issues in the EU concerns the legitimacy of financial support offered by airports to low cost airlines, whereby the former seek to stimulate economic growth in their immediate region.

There are a number of ways in which support can be given, the foremost of which is to substantially reduce fees relating to take-off, landing and on ground handling, as well as financial allowances earmarked for marketing new routes. Addressing this question, the EU Commission proposed in 2005 “Community guidelines on financing airports and start-up aid to airlines departing from regional airports” The proposal put restrictions on imbursements granted by airports to airlines, but does not rule them out altogether. (European Commission 2005)

1.3.1 SURCHARGES

Additionally, LCCs have pioneered aggressive advertising campaigns emphasising low ticket process, which, however, are accompanied by surcharges so that effective ticket price featured in the advertisements and of course, this has become an issue in consumer protection. Separate disclosure of surcharges is supposed to alert customers to the fact that these fees are merely passed on to them from public authorities whoa charge them. These surcharges go by names like "government tax", "airport tax", "security surcharge", and "fuel surcharge", or else they are simply subsumed under "taxes and charges". The EU Commission submitted a pertinent "Proposal for the regulation of the European Parliament and the Council on common rules for the operation of air transport services in the Community" during the summer of 2006. This proposes that in the future air fares must include all applicable taxes and fees and items of recompense, so that passengers will be better able to compare prices.

1.3.2 SECURITY

Security continues to be an issue. In July2006 an attempt was foiled in the UK to blow up- simultaneously – a number of planes in flight. Because the attempt had involved liquid explosive brought on board in hand luggage, in the first weeks after the discovery considerable restrictions affected this type of baggage.

The restrictions have been relaxed in the meantime, but since November 6 2006, new regulations are in force relating to hand luggage, which apply to all flights originating in EU countries. While these regulations apply to all airlines, they affect the LCCs to a particular extent in that larger number of passengers choosing to fly with low cost airlines prefer travelling with hand luggage only. In charging high fees for baggage carried in the air craft hold, some of the low cost airlines intend to increase the share of hand luggage so that tight on-ground turnaround schedules will not be compromised by time-consuming loading activities. It can not be rules out that present and future security regulations may wok against this strategy or may lead to higher ticker prices.

1.3.3 Fleet of Aircraft

A very important prerequisite for fast market entry is the availability of aircraft. The market for aircraft being a global one, with a primary market offering newly built aircraft, a secondary market for used aircraft as well as the option to obtain aircraft from operating lessors, nowadays procurement is not as difficult as it used to be two decades ago. Initially, *Ryanair* acquired its aircraft exclusively on the secondary market. Of the 22 aircraft that made up *Ryaniar's* fleet as of June 1999, eight (all of them the B737-200 Advanced type, built in 1978) had been previously in service with Lufthansa.

1.3.4 Regional Developments – Expanding on old routes

The European market as a whole – especially the EU aviation market – continues to enjoy healthy growth. In 2004, the total number of passengers was 650 million. 42% of these or 271 million passengers belonged in the category of cross border traffic between EU member states (Fuente, 2004), which represents the major low cost traffic within Europe.

The highest growth rates are recorded by routes to and from countries that joined the European Union 2004. The inclusion in to the EU of Poland, the Czech Republic, Hungary, Slovakia, Slovenia, the three Baltic states as well as Malta and Cyprus has meant that the EU's regulatory framework for air traffic has been extended to cover these countries. This has facilitated efforts by low cost airlines from 15 countries already belonging to the EU to operate new routes. Moreover, newly formed companies from the acceding countries have entered into the market,. In February 2006, 30% of available seating capacity in inter-European air traffic was accounted for by low cost airlines. (Furlong, 2006).

Further inidications suggest that Eastern Europe is likely to remain a growth market for low cost airlines in the forseeable future. Migration makes commuting a particularly potent factor in Eastern Europe. Employment and academic educatrion are notable motives for travelling. A large number of Eastern European citizens are employed in Western Europe, followed by commuting due to this migration, that is, family reunions, marriages etc. triggering demand for transport from those wishing to visit friends and relatives.

Among the member states of the European Union, Spain, Italy, and the UK ergister the largers increases in immigration, in absolute ternms, especially from Eastern Europe (Lanzieri, 2006). In 2005, net immigration in Spain, Italy anf the UK notched up 652,000, 338,000 and 196,000, respectively.

2 LITERATURE REVIEW

2.1 BUSINESS STRATEGY RESEARCH IN THE AIRLINES INDUSTRY

The original low cost business model, as established by Southwest Airlines, is set out in Table 1.

Product Features	
Fares network Destination In Flight	Low, simple and unrestricted fares, high frequencies, point to point, no interlining Travel agents and call centres (today internet sales), ticket less Single class, high density seating, no meals or free alcoholic drinks, snacks and light beverages can be purchased, no seat assignment
Operating Features	
1 Fleet	Single type, Boeing 737 types, high utilization, 11–12 hour/day
2. Airport	Secondary or uncongested, 20–30 minute turnarounds
3.Sector length	Short, average 400 nautical miles
4.Staff	Competitive wages, profit sharing, high productivity

TABLE 1: **THE ORIGINAL LOW COST BUSINESS MODEL IN THE AIRLINE INDUSTRY, AS INITIATED BY SOUTHWEST AIRLINES -** SOURCE: (ALAMDARI, 2005)

It is widely recognised that there have been many departures from this initial business model within the low cost airline sector in both the US and Europe. Arguably the most important study is that by Alamdari and Fagan (2005). In essence their statistical study of ten low cost carriers in the USA and Europe sought to assess the extent to which there had been deviations from the original low cost model, and what were the implications of such deviations for their level of profitability. Among their major findings were the following:

1. *Ryanair* and *easyJet* were the closest adherents to the original low cost model; and

2. *Ryanair* which ''has the most similar operating and product features to the original model also recorded the highest operating margin of the ten selected carriers'' (p390). These findings not surprisingly lead to their basic conclusions that there is a case for recommending adherence to the original model to ensure greater profitability, and that there is no clearer evidence that higher yields have resulted from offering additional product and operational extras. Beyond these findings and conclusions there was one other result from Alamdari and Fagan's (2005) research that needs to be emphasized. This is the particular finding for Southwest Airlines itself: specifically they noted that ''over the past 30 years, Southwest have evolved into an LCC that today only adheres to 62% of its original model features'' (p388).

True competition - including a real threat of low fare entry by new, no-frills carriers, is now seen as vital to the continued success of deregulation and in the best interests of the consumer (Doganis R., 2001). Routes that were formerly exclusive to national carriers are now open to any operator. In practice, this means that the major airlines cater for the business traveller while the low-cost airlines encourage new customers to fly.

Dresner, Windle, & Hofer, 2007 conducted research on price premiums and low cost carrier competition. The study focuses on 'a time series examination of price premiums in the US airline industry'. Similar equation model has been used, however they concentrated on different variables as distance (between airports), tourist route (tourist destinations), slot route, routes (routes on market attractiveness), and max airport (degree of awareness on airport market), route share (market dominance), max airport share (market dominance on airport market), LCC competition for high cost carriers on routes, LCC competition for LCC on routes, alternative routes for LCCs, circuity (measure of quality on transportation), Z-score (measure of airlines financial situation by using Z-score formulation (Altman, 1968) , load factor, airline cost, time and carrier, population and income to determine number of passengers carried by airline company and fares (price carrier charges between airports). On the empirical part of this dissertation mainly this article has been followed and was helpful on understanding the structure of how it works.

3 The Business Model of low Cost Airlines

3.1 Introduction

Almost all of the world's newly founded air carriers are touted as low cost airlines, to signal to potential customers the prospect of less expensive air travel. As presently witnessed in South America, India and the Middle East, the new airlines take on long standing incumbents (conventional carriers) that have built up complex cost and personnel structures over many years of protection and regulatory regimes inviting such developments. Hence start-up carriers do not find it difficult to enter the market on the strength of lower costs, especially regarding administrative expenses and personnel. Another way of describing this would be to say, that today a newly established carrier is generally a "lower cost" airline and not necessarily a "low cost" airline.

Previously, carriers based in the US and Europe that launched themselves as low cost airlines, were mostly able to establish a speedier response from within the market due to shifting consumer tastes and because their major competitors were conventional carriers with inflated cost structures. However, these traditional airlines have in themselves launched their own cost cutting schemes to counter the attacks from a host of start-up airlines, successfully resorting to a cost cutting format that would bring a reduction of much of the initial differences in costs and in turn to prices. At present, consumers are offered a variety of options that will allow them to check the World Wide Web, hosting internet sites that offer discounted or un-booked seats available from the airline. Theses measures, however, have not taken them anywhere close to being "low cost" airlines.

3.2 Low-Cost Carrier Business Model

3.2.1 Background

Although the unprecedented events of September 11th 2001 had immediate dramatic and widespread effects on the airline industry, the industry was already undergoing fundamental and irrevocable changes. They include but are not limited to the proliferation of low-cost, low-fare airlines and transparency of fares provided by the Internet, the consumer revolt by last minute travellers against high fares and a sharp downturn in the global economy. The events of September 11th simply added fuel to a smouldering fire and began an era when conventional airlines must re-examine their business model.

Contrastingly, while the international airline industry and in particular the established airlines went into a heavy crisis in the aftermath of the September 11th 2001 terror attacks causing a dramatic drop in demand, the low cost airlines were able to record high growth rates whilst maintaining profitability. Indeed, low cost airlines played a huge part in changing demand behaviour. While before travellers gave priority to the aspect of "travelling in order to get to a certain destination, lost cost carriers increased the tendency of travelling in order to leave a certain place. Consequently, travelling to a particular destination is no longer of major importance, but it is the travelling as such which is being stimulated by 'low cost offers' – The main thing is to go somewhere – where exactly is not so important.

It appears that a winning formula that has managed to identify itself as one which has a sustainable competitive advantage, which it's network based rivals have found almost impossible to emulate, is one where a low cost carrier has been able to identify a market niche neglected by traditional network carriers.

This formula will inevitably include the following pillars: low-cost, low-fares, no frills, high frequency, short haul, point-to point service between secondary or uncongested airports and the airline primarily aims itself at the price sensitive, that is, the leisure travellers.

By contrast the conventional network carriers' product is seen as high-cost, high-fare, full service, medium-to long haul frequency (mostly), connecting service via hubs, catering for the special needs or price insensitive business travellers.

LCC Business Model typically includes;

The typical low cost carrier business model is characterized by the practices that enable

LCCs to cost cuts vis-à-vis conventional carriers. Those characteristics are typically as

follows:

- Single passenger class
- Single type of airplane (commonly the Airbus A320 or Boeing 737), reducing
- training and servicing costs.
- Simple fare scheme (typically fares increase as the plane fills up, which rewards early reservations)
- Unreserved seating (encouraging passengers to board early and quickly)
- Flying to cheaper, less congested secondary airports and flying early in the
- morning or late in the evening to avoid air traffic delays and take advantage of lower landing fees
- Short flights and fast turnaround times (allowing maximum utilization of aircraft)
- Simplified routes, emphasizing point-to-point traffic instead of transfers at hubs (again enhancing aircraft utilization)
- Eliminating disruption due to delayed passengers or luggage missing due to connecting flights
- Emphasis on direct sales of tickets, especially over the Internet (avoiding fees and commissions paid to travel agents and Computer Reservations Systems)
- Encouraged use and issuance of the electronic ticket
- Employees working in multiple roles, for instance flight attendants also cleaning the aircraft or working as gate agents (limiting personnel costs)
- "Free" in-flight catering and other "complimentary" services are eliminated, and replaced by optional paid-for in-flight food and drink (which represent an additional

- o Profit source for the airline).
- o Aggressive fuel hedging programs.
- o "Unbundling" of ancillary charges (showing airport fees, taxes as separate charges rather than as part of the advertised fare) to make the "headline fare" appear lower.

These characteristics are heavily geared towards cutting unnecessary costs related to labour, aircraft and fuel, infrastructure, distribution and seat density adjustments.

3.2.2 Components of the Business Model

The low cost airlines organise, if possible, all activities under the aspect of reducing costs in order to achieve a strategic success position and thus, competitive advantages. This approach offers a lot of different opportunities with the exception of the security issue.

3.2.2.1 Cost Structures and Cost Advantages

The conditions for saving costs are created by implementing lean and cost effective company structures (lean management), minimum complexity, cost transparency, concentration on core competencies and outsourcing of strategically non-relevant tasks. Among the key features in this respect are, for example, flattened business hierarchies, little bureaucracy, no complex operations involving central IATA accounting systems and few labour or material intensive processes.

Likewise an efficient quality management contributes to cost savings and long term profit increase. If successfully implemented with an operationally efficient flight system, this approach allows a reduction in delays and hence a cost saving.

The implementation takes place within the scope of the business model which determines the company structures, the procurement of required services and products, the way of creating the low cost air trip service as well as the marketing concept. If successfully implemented by a low cost airline, this business model generates cost advantages over the competitors.

The cost structures of the low cost airlines in comparison to those of the established airlines were examined in several studies. Doganis, for instance, determined a cost advantage of the low cost airlines of 41% over the established airlines (Doganis, 2001). Figure 1 depicts the different variable cost elements incurred by an established airline and the highest saving possibilities which are available for low cost airlines.

Even if the low concept is being implemented by the various low cost airlines at

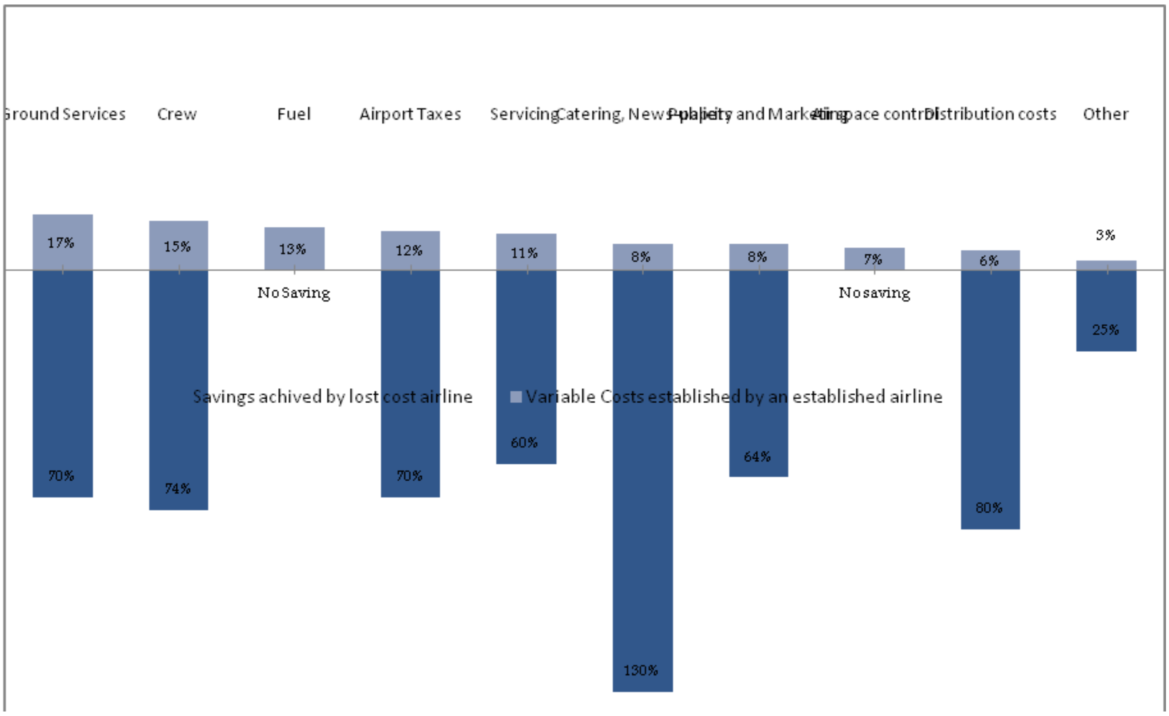

FIGURE 1: **Cost advantages of low cost airlines over established airlines - Source: Boston Consulting Group, quoted according to (Macchatschke, 2003)**

different levels of intensiveness and by means of different tools and concepts, it is possible to establish a common basic business model for all low cost carriers. See Figure 2, below.

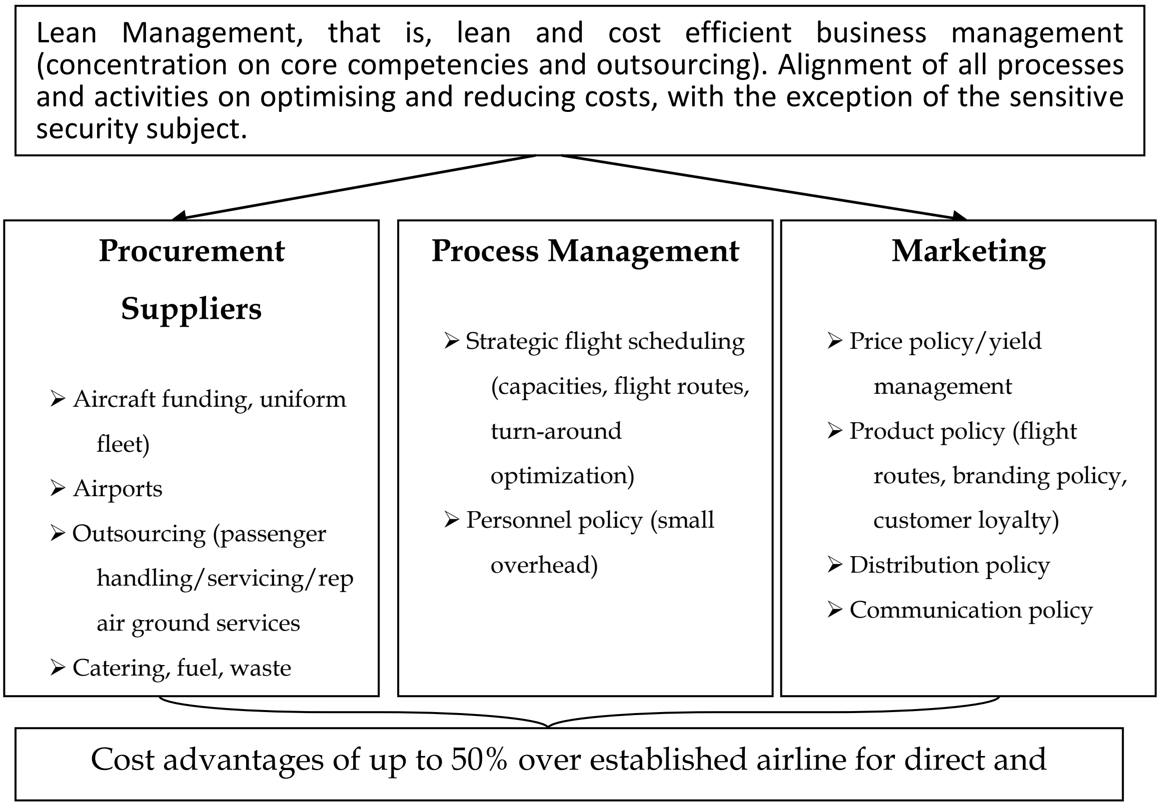

FIGURE 2: The business model of low cost airlines - Source: (GROB, 2005)

3.2.2.2 Procurement and Suppliers

Aircraft can be procured through purchase or leasing of both newly manufactured or used planes. Most LCCs use the leasing option to finance their planes. Newly manufactured aircraft are only purchased if sufficient capital is available since otherwise high cost of capital would be incurred. Following the aftermath of the worldwide airline crises post 9/11, a lot of used planes were offered on the international market for very low prices, for example from the insolvency assets of the American United Airlines or offered by other established airlines, such as Lufthansa. *Ryanair* is reported to have obtained the seventy 737-800 aircraft ordered with Boeing for a price of about $27 million USD per unit while the current market value of 40 million is much higher.

A uniform fleet if the same types of aircraft leads to costs savings for personnel training and to amore flexible operational planning since slight and technical staff are subject to identical qualification standards. This also allows to save costs in the filed of maintenance and servicing, for example with respect to spare part stock management. Amongst other things the model also includes;

i. *Using airports located outside city centres*, many of them former military airfields, saving time and money. In exchange for bringing in new passengers, Ryanair typically negotiates 5 – 10 year deals where airport fees on a net basis are little or nothing.

ii. *Faster turnarounds* at these secondary airports means there is less congestion - planes are up in the air 25 minutes after landing, allowing planes to get two flights more per day per aircraft than national carriers flying out of busy mainstream airports. The fast turnaround is also the result of not having pre-booked seats. This encourages passengers to arrive on time and board quickly.

iii. *Achieving high productivity* from the workforce. Revenue per employee is 40% higher than major airlines. For example, this year Ryanair will carry 9 million passengers with 1,500 employees, while Aer Lingus will carry 6 million passengers with a staff of 7,000. Ryanair has gone as far as not recognising a union for its workers.

iv. Nothing on board is free, not even peanuts. All drinks and in-flight snacks are sold on board, turning a cost into a revenue opportunity. Previously, ice stopped being served with drinks allowing a saving of $50,000 a year.

3.2.2.3 Personnel Policy

A field where potential cost savings can be made. In this respect, a distinction is made between flight personnel (pilots and cabin staff) and ground personnel (ground handling, management, administration). The number of staff per flight is determined by minimum crew requirements for the respective type of aircraft. The ground personnel represents the major part of the airline staff (maintenance, sales and handling personnel) and is very manpower intensive. Owing to a limited onboard service, a smaller number of in-flight cabin staff is required

3.2.2.4 Price policy

Since the feature of “low fares” has by far the greatest importance for consumers, pricing represents the most important marketing instrument for low cost airlines while being a long-term factor for customer loyalty. Profit maximisation as the primary aim of the low cost airlines' price policy is achieved through an as high as possible and steady seat occupancy rate and maximisation of the market share.

3.3 The Incumbents Responses to Low-Cost carriers

3.3.1 Some Key Questions Raised by this Growth.

This recent, rapid growth of the low cost sector in Europe obviously raises key questions for the established more conventional full service carriers (how will they respond?) and for the low cost carriers themselves. In the case of the latter, the first, and most obvious, question is whether all existing low cost carriers will survive the combination of short run pressures (e.g. the recent price rises in crude oil) and longer term developments in the industry such as increasingly saturated markets and more extensive and intensive head to head competition within the low cost sector? The answer is almost certainly no! Indeed *Air Polonia*, *V-Bird*, *Volare* and *Eujet* are just some examples of recent low cost airlines which have suspended operations. More generally, as some industry commentators have put it Source: (McKinsey, 2005):

''. . . all the ingredients are in place for the low cost segments consolidation, and airlines need a strategy to manage it. *Ryanair* and *easyJet* together account for about 50% of the seat capacity in Europe's low cost market. From 2000 to 2004, Ryanair had an average operating margin of 29.4%, *easyjet of* 8.9% and all other companies combined had an average of 3.5%. Many of today's names will be gone in the short to medium term.''

As well as managing these consolidation challenges, the existing low cost carriers will also need to control their costs, identify new sources of revenue and reassess their basic business model.

A second key question is how will the full service carriers response to the increased growth of the low cost carriers? A number of lines of change in the business strategy of full service carriers have been noted (McKinsey Quarterly, August 2005): (1) segment offerings more effectively by increasing the differentiation between business and economy classes (e.g. revamp premium offerings and reduce the appeal and cost of economy class; increasingly concentrate on high margin routes where low cost carriers are less able to compete); (2) create separate offerings for different geographical areas (for example, creating in-house low cost carriers); and (3) seek to strike a new balance between low cost and differentiation. The essence of the later has been described as 'mimicking aspects of a low-cost carrier but preserving differentiating factors that are economically sustainable' (McKinsey Quarterly, August 2005). The leading current example of this approach is *Air Lingus* which demonstrated that this attempt to establish a hybrid type business model has relatively quickly yielded some positive, short run 'bottom line' results.

3.4 The Conventional Airline Business Model

It is simply defined as a ' hub and spoke model' which is like continental airline companies providing full service of meals, various drinks and lounges within a range of passenger classes and 'hubbing' has a major effects on airline economics and on competition policy. Mainly uses central airports such as Heathrow where travellers take longer hour journeys.

Traditionally, conventional airline prices are determined according to the 'hub and spoke model'. That is, airlines such as British Airways with a worldwide network, compete and fly the short-haul European routes (the 'spokes') - offering their full service of meals, drinks and executive lounges – in order to channel passengers into their long-haul 'hubs', such as Heathrow, where travellers then pick up flights to New York, Johannesburg etc beyond the continent of Europe (Sinha, 2001).

By looking at statistical data, Lufthansa as a firm is operating more and much better than British Airways. (British Airways, 2007), (Lufthansa official website, 2007), Annual Reports)

3.4.1 Pricing Strategies

It is quiet arguable how fare prices are set up. With regard to pricing policy, what makes air travel pricing so complicated (and this is an argument often used by airlines), is that there is no one price (flat rate) they can charge for a seat and still make a profit. Either the price would be too high and the airline would not attract enough passengers to fill the plane, or the plane would be full but the airline would not cover its costs. Therefore, the airlines have developed a system where business travellers pay may be 5 or 10 times more than the price of economy for flexible tickets and convenient times and bargain seekers willing to accept restrictions fill the seats that remain which are economy class, Q and K classes. And economy class seats take greater place in the aircraft.

What they have actually done is separated the cost from the price of flying. Airline companies do is try to charge every traveller maximum amount they are willing to pay of flights for who needs to fly on certain days and closer time to the date of flight. The short bookings to date are for usually businessman. Ticket prices usually become lower on longer advance booking and most of the time they get the best deals. However, British Airways customers know higher price and lower price times. That does not mean that ticket prices do go very cheap if you book it very early, but it does go for a reasonable price with providing good service.

3.4.2 Costs

"This is undoubtedly the largest single element of operating costs which is aircraft-dependent. It includes, in the first place, all costs associated with flight crew. Such costs cover not only direct salaries and travelling and stopover expenses but also allowances, pensions, insurance and any other social welfare payments." (Doganis, Flying Off Course, 2002). Direct Operating Costs and Indirect Operating Costs differ from each other. Flight crew cost takes large place on determining price for journeys.

"Flight and cabin crew, like aircraft, are a valuable and costly resource. A high proportion of crew costs are fixed and do not vary in the short term."(Doganis, 2002, p130) If the wages were based on hour system, this would cost the airline companies much more when the flight delays. Basically cabin crew spends most of their time on ground other than in the aircraft flying on their duty.

The model came under attack from two fronts. First, long haul flights experienced a downturn following the events of September 11th combined with economic recession in the developed economies. Second, the low-cost, short-haul specialists (LCCs) began exposing BA's short-haul flights as expensive. Hence, the economics of the hub and spoke model no longer made sense as profits from BA's long-haul business, under pressure from the economic downturn and increased competition, were simply no longer strong enough to cover the expanding costs of its short-haul flights.

In 2002, British Airways launched a radical pricing strategy called '*fight back in Europe*' intended to deal with the threat from no-frills carriers on routes to Europe. This involved offering '*full service at no-frills prices*' by cutting European fares by up to 80% on 42 routes between Britain, France, Italy, Portugal, the Netherlands, Sweden, Norway and Denmark (BA Website).

This radical step abolished the compulsory overnight stay on Saturdays; together with restrictions on advance purchase (although the no-frills model still means that the earlier you book the cheaper the fare). BA travellers are now able to combine peak and off-peak fares or business-class with economy in order to get the best price on a round trip. This addresses one of the critical success factors of the no-frills carriers. That is, not so much cheaper fares, but one-way fares that allow travellers to make midweek trips at a fraction of the cost. Thus, a business traveller, who perhaps cannot tell when a meeting will end, can combine a cheaper 'no-change' outbound flight from Heathrow to Paris with a flexible return, for £199 instead of £568.

Hence, conventional carriers have been able to offer some defence against LCC attack on their short haul business. With the exception of some transatlantic routes - where LCC-style flights are offered between secondary airports in the UK and US - conventional carriers have been fairly safe from LCC competition on long haul flights.

'The shorter-haul passengers may produce higher yields and generate more income because of the way fares are structured. Long-haul passengers pay much less per kilometre travelled because unit fares decline as distance increases, to mirror the drop in unit costs.'(Doganis, 2002, p134-135)

It is better idea for an airline companies to carry less passengers on long hour journey then carrying more passengers on short hour journeys which provides higher profit to the company. In 2001 summer British Airways has cut the seat capacity and targeted higher-fare passenger. (Doganis, 2002, p265)

4 INVESTMENT SUMMARY AND RESEARCH STUDY

4.1 OUTLOOK

It would be difficult to write an airline sector investment summary without talking about the macro view. In a recession, airline fares fall. As average fares have risen some 6% since the 2003 downturn, investors that are anticipating falling prices given the macro outlook should continue to 'short' (involving a seller who, at the time of sale, does not possess the shares he or she is selling and has to borrow them before being able to deliver. Once the share price has fallen, the short seller buys the shares and returns them to the person from whom they were borrowed, resulting in a gain on the deal – London Stock Exchange), the sub-sector in anticipation of forthcoming downgrades. End of story? Certainly if economic growth has indeed ground to a halt, then the airline sector, like equities in general, is in for the chop over the next 12 months. But, if we assume that governmental policy action will generate at least some economic growth, then the swing factor for airline profits is what it has always been: **capacity**. With this in mind, next year looks more like the 2005 outcome, when profit margins rose, compared to the late 1980s, when yield collapsed through overcapacity.

Looking out into 2008 we see capacity growth falling twice as quickly as the GDP-implied reduction in demand for air travel. Balance sheets are strong and share prices are trading at. Approximately, 30% below the implied mid-cycle average value, implying that the equity market sees 2006 as the peak year of the cycle. (Reuters and Deutsche Bank estimates).

With investment in mind we should continue to seek airline equities that, either through valuation, strategy, or positioning, have at least some insurance against a major economic slowdown. Investment should be made if: (1) airlines that are demonstrably cutting ex-fuel costs; (2) growth aspirations are modest; (3) fuel is reasonably well hedged; and (4) valuations are low.

4.2 DATABASE AND METHODOLOGY

4.2.1 RESEARCH OVERVIEW

In determining whether certain characteristics prevalent in the airline industry affect the determination of share values, an empirical analysis has been conducted around four companies listed in the London Stock Exchange. In order that a comparison can be made within this sector two are from the LCCs class, namely, *easyJet* and *Ryanair* and two from the conventional carriers – *British Airways* and *Lufthansa*. The data was collected from annual reports and a variety of databases, including Datastream, Bloomberg and the Yahoo web page.

The data collected was used to run a regression on the *Eviews* statistical software package

4.2.2 METHODOLOGY

In total we have 28 observations that belong to *British Airways*, *Lufthansa*, *Ryanair* and e*asyJet*. The variables and described in the model below include a) Number of passengers, b) Number of employees, c) Number of destinations and d) Number of aircrafts (Fleet o aircraft).

The regression is "the process of constructing a mathematical model or function that can be used to predict or determine one variable by any other variable". (Eldredge, 2002)

Theoretically, the dependent variable to be predicted is simply defined as a simple regression which involves the analysis of the relationship a set of two variables, hence:

$$Y = \alpha X_i + C$$

Where;

Y = the variable to be predicted

Xi = the predictor variable

C = the constant and remains the same

Multiple regression involves multiple explanatory variables and it takes the following form;

$Y_t = \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \ldots + \beta_k X_{kt} + \mu_t$ (Asteriou & Hall, 2007)

The panel data has been used covering the years 2000 to 2007 through Eviews to find out whether share prices of these four companies are determined by their independent variables. In order to run this regression least squares method has been used.

As we mentioned earlier, these independent variables are passengers, employees, destinations and aircrafts; our dependent variable is share price. To examine this we have the following equation;

$$Y_{it} = \alpha_i + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \in_{it}$$

Where;

Y_{it} = share price

α_i = regression constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = regression coefficients for independent variables

X_1 = passengers

X_2 = employees

X_3 = destinations

X_4 = aircrafts

$\in$ = random error

t = time

SEE APPENDIX 1

4.2.3 Results

We have mainly focused on value of the t-statistic and coefficient values to determine whether they are significant or not and see the effect on the companies' FTSE share prices.

If the variation of variable Xi explains the variation in Yi, while holding other factors constant, then we consider that βi is significant and its associated t-statistic value is greater than 1.98. The coefficient value will be able to tell us whether there is a decrease or increase in the share prices by each explanatory variable.

The table below shows the 28 observations, used to provide the results of the first specification.

Date: 11/29/07 Time: 16:12 Sample(adjusted): 2001 2007				
Included observations: 7 after adjusting endpoints Total panel (balanced) observations 28				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Constant	-0.14941	0.195628	-0.76374	0.4611
PASSENGERS OF BA	-1.97E-07	6.36E-08	-3.09778	0.0101
PASSENGERS OF LUFTHANSA	1.95E-07	6.54E-08	2.978724	0.0125
PASSENGERS OF EASYJET	1.75E-07	7.03E-08	2.494986	0.0298
PASSENGERS OF RYANAIR	1.67E-07	1.12E-07	1.48941	0.1645
STAFF OF BA	-0.000355	0.000114	-3.12923	0.0096
STAFF OF LUFTHANSA	0.000338	0.000114	2.965645	0.0128
STAFF OF EASYJET	0.000201	0.000218	0.922492	0.3761
STAFF OF RYANAIR	-0.000266	0.000802	-0.33125	0.7467
DESTINATIONS OF BA	0.082629	0.020531	4.024595	0.002
DESTINATIONS OF LUFTHANSA	-0.075657	0.021004	-3.60198	0.0042
DESTINATIONS OF EASYJET	-0.030201	0.025469	-1.18579	0.2607
DESTINATIONS OF RYANAIR	-0.083956	0.021217	-3.95695	0.0022
AIRCRAFTS OF BA	-0.012656	0.003262	-3.87982	0.0026
AIRCRAFTS OF LUFTHANSA	0.011092	0.005004	2.216338	0.0487
AIRCRAFTS OF EASYJET	-0.002175	0.013672	-0.1591	0.8765
AIRCRAFTS OF RYANAIR	0.046033	0.05846	0.787424	0.4477
R-squared	0.847076	Mean dependent var		0.047657
Adjusted R-squared	0.624641	S.D. dependent var		0.254693
S.E. of regression	0.156042	Sum squared resid		0.26784
Log likelihood	40.23931	F-statistic		3.808191
Durbin-Watson stat	3.072265	Prob(F-statistic)		0.014789

TABLE 2: RESULTS FROM THE FIRST RUN REGFRESSION

The variable passengers' of *British Airways* is significant (t-statistic 3.09) and equal to 1.97 E-07. Each additional million passengers of *British Airways* makes its share value decrease by 1.97 E-07.

Looking at the interaction terms of passengers with companies, we see that passengers of *Lufthansa* have a t-statistic equal to 2.97. This means that the effect of each additional million passengers of Lufthansa makes Lufthansa shares increase by 1.95 E-07

As it appears on passengers of *easyJet* coefficient, its t-statistic value is 2.49 which is significant. The coefficient value is 1.75 E-07. Therefore each additional million *easyJet* passengers will have an effect on the *easyJet* share price increase by 1.75 E-07.

For *Ryanair*, the number of passenger's coefficient has a t-statistic of 1.48 which is insignificant.

Stage 2 - determining variable is the number of employees in relation to companies.

As number of *British Airway's* employees is highly significant as its t-statistic value is 3.12. Its coefficient value is -0.000355. So this outcome makes *BA* shares decrease by 0.000355.

Employees of *Lufthansa's* are significant as its t-statistic value is 2.96 and coefficient value is 0.000338. Each additional number of *Lufthansa's* employees will have an effect on *Lufthansa* shares increase by 0.000338.

By looking at employees of *easyJet* the coefficient we can see that its t-statistic value is insignificant.

Staff of *Ryanair's* coefficient has a t-statistic of 0.33 which makes it insignificant.

Stage 3 - determining variable is the number of destinations.

By estimation the number of destinations for *British Airways* produced a t-statistic value of 4.024595 which is highly significant. By looking at its coefficient value, we can determine that each additional number of destinations has an effect on FTSE by 0.082629 - a rise.

The destination of Lufthansa's t-statistic value is 3.60 which results to significance. Therefore, the effect of this outcome on Lufthansa shares decrease by 0.075657.

Each additional number of destinations for *easyJets'* t-statistic value is determined as 1.18 which makes this variable insignificant.

As it can be seen from the table the number of destinations of *Ryanair* is highly significant (t-statistic= 3.95). *Ryanairs'* coefficient value is -0.0839. Subsequently, the outcome makes *Ryanair* shares fall by 0.083956.

Stage 4 - number of aircrafts as a determining variable.

Aircrafts of *British Airways* is highly significant (t-statistic= 3.87). Therefore, by looking at its coefficient value we can determine that value has an effect on *BA* FTSE by -0.012656 - a fall.

The variable of *Lufthansa's* aircrafts shows a significant effect (t-statistic= value 2.21) Therefore, by looking at its coefficient value we find the effect (positive or negative) on *Lufthansa* shares in FTSE. The coefficient value is 0.011092, so it has a positive effect and increase by 0.011092.

As we can see from the t-statistic value that the aircrafts of *easyJet* coefficient is insignificant and each additional number of aircrafts of Ryanair coefficient is insignificant.

Dependent Variable: Share Price Method: Pooled Least Squares
Date: 11/21/07 Time: 13:01

Sample(adjusted): 2001 2007				
Included observations: 7 after adjusting endpoints				
Total panel (balanced) observations 28				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
PASSENGERS	9.27E-09	7.51E-09	1.233563	0.2317
STAFF	1.27E-05	2.30E-05	0.551437	0.5874
DESTINATIONS	0.010206	0.003402	3.000376	0.0071
AIRCRAFTS	-0.006707	0.002187	-3.06631	0.0061
Fixed Effects				
RYANAIR—C	-0.643612			
EASYJET—C	-0.102913			
BA—C	0.136961			
LUFTHANSA—C	-2.677996			
R-squared	0.494354	Mean dependent var		0.047657
Adjusted R-squared	0.317378	S.D. dependent var		0.254693
S.E. of regression	0.21043	Sum squared resid		0.885617
Log likelihood	18.01538	F-statistic		6.517787
Durbin-Watson stat	1.960207	Prob(F-statistic)		0.00297

TABLE 3: FIXED EFFECTS REGRESSION RESULTS

The Fixed effects regression model is applied and displayed in the table above. Fixed variables are those companies that do not vary over time – this includes their coefficients. Again, the t-statistic value will determine whether these variables are significant or not and what their effect on the dependent variable share prices will be.

As it can be seen the 'passengers' t-statistic value is 1.23 and hence insignificant. However, the coefficient value has a highly positive effect on companies share prices. By looking at the other regressors; employees have an insignificant value; although they have a positive effect over the share prices of companies. As it appears on destinations and aircrafts, they both have a significant value. Destinations have t-statistic value equal to 3.00 and aircrafts t-statistic value equal to 3.06. By looking at their coefficient values, destinations have a positive and aircrafts has a negative effect on share prices which results that destinations have an effect of a rise on share prices and aircrafts have an effect of a fall on share prices.

By looking at dummies of each company, it can be concluded that only *BA* has a positive effect on their share prices by 0.136961. In order, *Ryanair*, *easyJet* and *Lufthansa* have coefficients, 0.643612, 0.102913, 2.677996 fall on their share prices.

5 FUNDAMENTALS – DISCUSSION

The model was generated using the pooled least squares method using the *EViews* statistical package. However, it must be noted the following assumptions have to be taken into account while analysing the results, namely;

- lack of observations – The lack of available significant data for this regression places doubt on the accuracy of the results. Long range statistics would be needed to establish truer results.

- spurious regression problems – The variables used in this particular equation will have a certain level of interdependence. This will have a significant effect on the result of the independent variable.

- incorrect functional form – Limitations of the types of variable used in the regression formulation may suggest that the original hypothesis needs to be redefined.

Passengers of *British Airways*, *Lufthansa* and e*asyJet* have a positive effect on share prices which is expected as more passengers bring more benefit and profit to firms, given that, especially, *easyJet* is looking to expand on its fleet of aircraft in 2008. Conversely the number of *Ryanairs'* passengers surprisingly produced a insignificant value. By reference to the descriptive statistic in appendix 1, over time the numbers of passengers of *Ryanair*, e*asyJet Lufthansa* have been increasing, however *BA's* numbers of passengers have decreased.

As it is known that employees bring direct costs to firms, pensions etc. The number of *BA* employees has a negative effect on their share prices, however *BA* have over the years been gradually cutting its workforce. This in itself is more of a consequence of the changing economic climate in the wake of 9/11 and new LCC entrants recently gaining positions in the airline sub-sector. With regards to appendix 1, the overall outlook for *Lufthansa* suggests that there has been little volatility in its figures for its workforce.

The last strong downturn was in 2001 with Lufthansa's Financial Year (FY01) result which at €28m operating profit after Euro 1bn in FY00. While the passenger segment lost around €470m operating profit (from €730m to €260m) and €100m or 1% revenues the major loss contributor was the Catering business US (which today is restructured and downsized by 20-30%) which lost €900m from FY00 to FY01 (from €44m to -€850m). In 2002 Lufthansa recovered already after grounding part of its unencumbered aircraft and reducing capacity with Operating profit of €1bn. Today, we believe Lufthansa fleet flexibility is very high allowing Lufthansa to go to 0% growth by replacing instead of adding aircraft deliveries. (Bloomberg, 2007)

On time-series regression, *BA* is the only company which has a positive effect on its share price by number of its destinations. However, real world fundamentals suggest that the 'Open Skies' policy may lead *BA* to face a profits step down. Or another way of considering the issue is to look at what sort of an impact the equity market thinks Open Skies will have. How many passengers lost (or fare reductions) might the market be implying?

In its' analysis Deutsche Bank estimate the number of empty flights per day that the share price is implying. By capitalising the Earnings Before Interest and Tax (EBIT) loss at 10 times and assuming a 16% margin on EBIT (which is what the bank believes *BA's* premium margin is on a fully costed basis), they estimate that the average revenue loss implied is some £1.5bn. On the basis of a £5000 ticket price, they estimate that the share price fall assumes that *BA* is going to lose premium passengers amounting to 16 empty flights per day. So at present the market assumes *BA* is pretty much going to lose its entire London-New York business. See table 4 below.

Share price has fallen 40% from peak	Pax
Let us assume 20% of this is due to cycle and 20% due to Open Skies	
Share price now	363
Share price peak	580
Number of shares now	1162.753
Market capitalisation fall £m	2523.2
Implied EBIT hit (capitalised at 10x)	252.3
Assuming premium 16% EBIT margin - calculation available	16
Implied revenue loss £m	1577
Average ticket price £k	5000
=> Number of premium passengers lost (k)	315.4
Premium passengers per flight	55
Days in the year	360
=> Number of empty flights per day implied	15.9

Table 4: BA: Open Skies: Estimating the fear in the share price. Source Deutsche Bank

Deutsche also compared this loss to the issues seen in previous downturns/exogenous events. As shown in Table 5 below, *BA* lost just over a million premium passengers, cumulatively, over the two year period in the run up to 9/11 and the subsequent vicious air travel recession. (Recall that air travel demand had already started to falter before 9/11). By performing the same calculation, we can see that in theory the equity market is pricing that *BA* loses premium passengers that amount to around 69% of those lost in the last downturn. Bearing in mind that *BA's* loss post 9/11 was due also to closure of much of the premium short-haul business, and also that 9/11 had the issue of the exogenous event, we believe that the share price is already assuming a very severe demand downturn for *BA*.

Taking into account Deutsche Banks estimate that the market is now pricing in a downturn that is 69% as severe as that seen in 2001-03, or alternatively that BA has to fly 16 empty London-New York flights daily every day for ten years, they believe that the sell off in *BA* has been too aggressive irrespective of the economic outlook and they upgrade the stock to a Buy. The only risks that they envisage to this stance are a widespread recession, a material spike in the fuel price, and non-economic capacity adds to the North Atlantic.

(Spread over a two year period)	
Market capitalization fall £m	2523.2
We assume this is a cash (all EBIT) loss over a two year period	
=> Cumulative implied EBIT (pre-tax) hit £m	3604.534
Assume premium passengers stop traveling and all revenue lost	
=> Total number of premium passengers lost (k)	720.9069
Versus 11/9 and aftermath (% severity)	69.2
In the run up to 11/9/01 and the subsequent recession (total time 2 years)	
Premium traffic was on average 13% down per month	
Estimating cumulative total passengers lost over previous downturn	
Number of months of downturn/macro event	24
Average premium traffic loss per month (%)	13
Total number of premium traffic passengers carried per year	4004.1
=> Implied number of premium passengers lost over period	1041.061

Table 5: Comparison to previous downturns/exogenous events

5.1 Share price trends in 2005 and 2006

As shown below the share prices of all of the major airlines had a positive year, in absolute terms, both in 2005 and 2006 year to date. In 2005 the main winners were *easyJet*, *Ryanair* and *BA*. In 2006 all of the flag carriers (conventional airlines) have outperformed the LCCs year to date with essentially the same strong performance from *Air France BA* and *Lufthansa* (*easyJet* has also been strong this year).

	2005	2006	2006	2006	2006	2006
	year	ytd	Q1	Q2	Q3	Q4
Air France	28.3	71.8	5.9	(5.4)	29.4	32.5
British Air	42.1	45.2	5.8	(3.0)	24.6	13.6
Lufthansa	18.3	53.3	17.2	(2.2)	15.7	15.6
easyJet (LCC)	101.3	51.7	(7.1)	10.0	25.8	18.0
Ryanair (LCC)	58.1	15.8	(5.8)	(9.3)	18.6	14.3
Air Berlin (LCC)	NA	NA	NA	3.7	30.6	31.7

FIGURE 3: EUROPEAN "LARGE" AIRLINES – SHARE PRICE PERFORMANCE .SOURCE-DATASTREAM

However, as can be seen from the quarterly breakdown the LCCs staged a decent comeback in the third and fourth quarters of 2006 and indeed in Q406 the share price gains of *Air Berlin*, *easyJet* and *Ryanair* are rivalling those of the flag carriers. (By comparison, the Eurotop 100 rose 18% in 2005, 10% YTD, and 7.6% in 3Q.)

Looking at the same information in a share price chart (fig 4), we can see that since the start of 2006, *Air France* has been the best performing airline investment, with the regional airlines *Alitalia* and *Iberia* - and then *Ryanair* - being the weakest performers. It is important to note, however, as shown below, that all of the 'major' airlines have been strong both LCCs and flags, in absolute terms as the entire industry group has been strong.

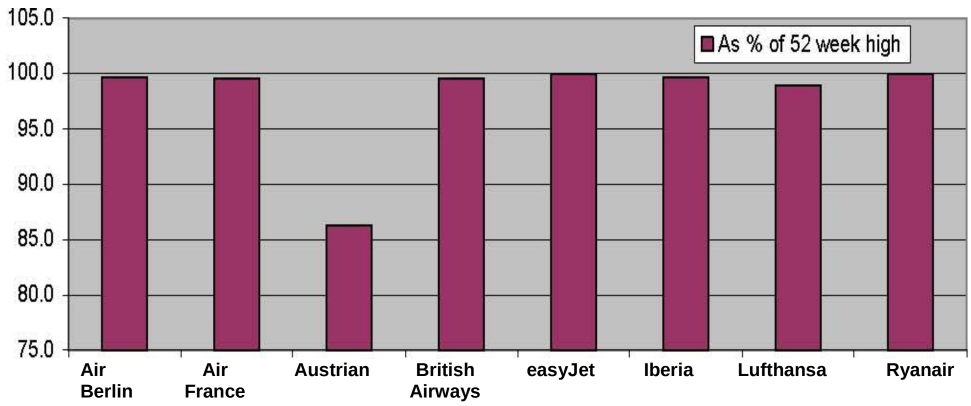

FIGURE 4: EUROPEAN AIRLINES: SHARE OF PRICES AS A PRECENTAGE OF 52 WEEK HIGH SOURCE-DATASTREAM

5.2 A RECESSION HITS AN AIRLINE IN A VERY OBVIOUS MANNER – FARES FALL.

What is the impact of a recession on the airlines? On a very short term view airlines are fixed cost businesses. The summer schedule, for example, for 2008, is already pretty much fixed. Planes that are not on leases can be grounded, which helps to preserve cash. Airlines such as Lufthansa, with 70% of its fleet unencumbered by debt, can preserve cash flow by grounding planes, or planes can be returned to lessors early if the downturn is perceived as wide ranging. But staff costs is still the major profit and loss item and pilots in Europe still cost money whether they are flying the planes or waiting for planes to be brought back to the fleet. Therefore a recessionary volume slowdown can only be countered by discounting fares to sustain passenger travel – after which it is a question of attempting to take cost out of the business to protect profitability.

The big advantage that many airline investors have is that it is not so long since the last major demand-led recession. After 9/11 airline travel volumes, especially premium volumes, fell precipitously and the industry lost around 2-3 years of growth.

As we can see from the financial summary below (fig 5), above, the dynamic was clear. LCCs based in the UK used the opportunity to substantially accelerate volume growth, permanently gaining market share. BA, as the flag carrier that was most exposed to this dynamic, sharply lost profitability and took many years to recover. At the time LCCs were not in Europe in any significant numbers so the European flag carriers had more time to deal with the downturn in demand without an initial competitive response.

FIGURE 5: EUROPEAN AIRLINES: PROFITS GROWTH OUT OF THE LAST DOWNTURN (€M, OR AS STATED) SOURCE: BLOOMBERG

EZJ (£m)	2000	2001	2002	2003		Comment
Rev	263.7	356.9	551.8	931.8	3.5	"Would have been more" but for Go acquisition
EBIT	28.7	41.9	69.6	48.4	1.7	
					2.5	avg
RYA	2000	2001	2002	2003	2004	x
Rev	370.1	487.4	624.1	842.5	1074.2	2.9
EBIT	84.1	114	162.9	263.5	270.9	3.2
BAY (£m)	2001	2002	2003	2004	x	Comment
Rev	9278	8340	7688	7560	0.8	Weak rel. to LCCs but still strong relative to peers
EBIT	420	-110	379	405	1	
					0.7	avg
LHA	2000	2001	2002	2003	2004	x
Rev	15241.7	16715.8	16987	15986	17050	1.1
EBIT	1060.2	-497.2	1088.9	-405	558	0.5 c.€800m was US Catering which has now been downsized

Thus, a recovery in profitability for them was actually swift. However the bounce back was followed by overcapacity as the LCCs used the bridge of volume growth from 9/11 to push into Europe and overcapacity rapidly followed. Finally the structural changes to the industry (a shift to low cost travel on medium haul) globally, took their toll on airline related businesses such as catering.

As one might expect, the share prices of the entire sub-sector have taken a long time to recover. From its previous peak (in terms of market capitalisation) in Jan 1998, the sub-sector has only begun to approach this peak in Jan 2007. And the sector now has a heavy LCC component. (Deutsche Bank, 2007)

easyJet, the budget carrier founded a dozen years ago by Greek entrepreneur Stelios Haji-Ioannou, has grown from two leased Boeing 737-200s to a 130-plane fleet flying 292 routes to 75 airports in 20 European countries. The success of these pioneers has inspired a slew of copycats across Europe, where low-cost carriers now account for about 25% of the airline market, a fivefold increase from the beginning of the decade.

5.3 What could happen this time?

Given the lessons of 2001-03, it seems highly likely that the conventional carriers are the most vulnerable if a recession comes again. History may repeat itself although they have had time to reposition their businesses, there is no doubt that the LCCs now have the sort of position in Europe that they had in the late 1990s in the UK.

However, on May 9th 2007, easyJet, conceded its load factor, or percentage of seats filled, had fallen to 83.1% in April from 86.4% a year earlier, following, recent similar revelations from *British Airways* and *Ryanair.* Chief Executive Officer (CEO), Andy Harrison said in a statement that to reverse the trend the company will lower prices on summer flights "to sustain high load factors in weaker market conditions." (easyJet – website 2007). In a similar vein *Ryanair* declared its' biggest fare sale offering by reducing the price of 10 million seats to $20, including taxes.

CEO Michael O'Leary announced that the, “move should drive down prices across Europe and boost demand.”

Moreover, fares are not the only things that have fallen. The share prices of European short-haul airlines have taken a battering in recent weeks. Fearing sluggish demand in the summer—normally the discounters' busiest and most lucrative period—investors in *easyJet, Ryanair*, and *British Airways* have driven down their shares by 17%, 8.5%, and 5%, respectively, during the four weeks ending May 10th 2007.

It seems Europe's discount airlines are in danger of becoming victims of their own success. *Ryanair*, for instance, transformed itself from a near-bankruptcy in the 1980s to Europe's most profitable airline. With an expected passenger load this year of 50 million, it is now Europe's largest carrier.

Indeed, years of strong profits have encouraged LCCs to buy more planes and fly more routes, flooding the market with capacity and putting fares under pressure. e*asyJet* alone has taken delivery of one new Airbus A319 every 12 days since September, 2003. With 104 Airbus planes on order, the carrier expects to increase capacity by 15% in the fiscal year ending Sept. 30th (easyJet, 2007).

Meanwhile, *Ryanair* has seen 21% growth in capacity this year, taking delivery of 27 Boeing 737-800s for a fleet total of 138. By the first half of 2008, *Ryanair* plans to increase its fleet to 170. "…an increased capacity will make it even more difficult for low-cost carriers to navigate the increasingly competitive pricing environment," (analyst at Oddo Securities - Bloomberg - 2007).

The airlines place part of the blame for their current troubles on tax increases in the UK and rising airport charges across Europe. In February, Britain doubled air passenger duties on short-haul economy fares to $20 per departing passenger, citing the need to curb carbon emissions. Passenger charges at British airports also are rising. Fees at London Stansted, *Ryanair's* biggest base and one of *easyJet's* London hubs, have increased by 50%, to $4 a passenger.

If a major downturn was to come, we can assume that the likes of *Ryanair* could expand aggressively into continental Europe. Airports, previously not keen on these competitors, might have little choice but to accept their terms. Volume growth from route cuts by the conventional carriers could sustain LCC growth through a recession, or to put it another way, recessions tend to favour airlines with a low cost base and despite a significant move by the flag carriers, LCCs still have the unit cost advantage.

The pricing environment may be a lot tougher, but both *easyJet* and *Ryanair* are on track to post strong full-year results. On May 9, easyJet's Harrison, who stepped into the top job in 2005, claimed the company was still expecting 40% growth in pretax profits for the fiscal year ending in September.

For the six months leading to March 2007, *easyJet* narrowed pretax losses by 58%, to $34 million from $80 million a year ago. Meanwhile, revenue rose 14%, to $1.4 billion, thanks in large part to an increase in the money the airline makes from ancillary services, such as car hire and insurance, including charges to passengers of up to $15 for priority boarding. (DataStream 2007)

The LCCs ability to find ever more creative ways to get passengers to spend money is one reason why many analysts believe the current turmoil will not dent full-year profits. "Stronger growth in ancillary revenues and better cost management" is likely to offset the current pricing weakness. (analyst at Oddo Securities - Bloomberg – 2007)

Indeed, the gloomy summer forecast has not curbed the budget carriers' ambitious growth plans. *Ryanair's* O'Leary told an industry conference on May 10th that he plans to double his number of passengers to 100 million and the number of bases he serves to 40 within five years. This summer may be choppy, but the long-term flight path still looks clear.

Conventional airlines have: (a) had time to reposition their business; (b) made significant reductions to their cost base; (b) cut back non-hub routes; (d) used their alliance positions to gain market share globally; (e) much stronger balance sheets and so may not have to cut back their growth plans as aggressively as in the last downturn. (Deutsche Bank, 2007)

So it may take a more aggressive recession than the events of 2001-03 to produce the same material impact to airline profitability. It would be difficult to imagine a tougher downturn for the industry as that between 2001 to 03. So far the news flow on the credit issue has not seemed to be anything like as bad as the events of 9/11 for the airline industry. Over this tough period, consumers could directly see the tragedy and how it affected them. Is airport security going to again be doubled after the credit crunch is over? Are passengers going to stop travelling to entire countries? Consumers and businesses will have less disposable income, in general, perhaps materially less, and feel less wealthy. This will in turn reduce economic growth. But, a credit crunch should not pose a fundamental threat to customer security.

6 CONCLUSIONS

It can be concluded that low-cost airlines appear to have drawn business from land and sea carriers, creating a new market of airline users. This growth of the budget sector in the past signified a polarisation of services, with one end operating with more the traditional levels of service (in flight meals, reward points et cetera) and benefits and the alternative economy offering a low fare 'no frills' way of travelling. Nevertheless, even the traditional carriers have had to concede to the increasing popularity of the 'no frills' airline and in doing so have had to change their classical business models to adopt a product that tries to meet the consumer mid-way by offering a budget class' alternative. Both policy, by way of deregulation in the aviation industry standards and competition from the reduced barriers of entry for the new breed of entrant has meant that consumers now have a choice in the way in which they can travel.

The major effect has been the creation of an alternative type of travel product, reduced operating costs and the creation of competition. Given their growth and impact so far it is easy to envisage a healthy future for budget airlines in Europe, ceteris paribus.

A recent survey of business travellers (H. Cristian, 2007) found that there are two business traveller types: ''luxury-loving'' and ''no-frills''. The low-cost and full-service types value only two out of the ten attributes differently ''in-flight service'' and ''business lounge''. Moreover, previous use of a LCC emerges as an important determinant for both the ''in-flight service'' and ''business lounge'' attributes. This suggests that, after having experienced the low-cost product, passengers tend to reassess the valuation of some attributes in a way which is more favourable to the LCC.

There are, however, significant threats facing the sector. Jonathan Ornstein of Virgin Express described the biggest challenge facing the airline as that of keeping costs at a level to allow them to price the product attractively. However, with increasing volumes of passengers, LCCs are trying to meet the demand for growth by either expanding their own fleet of airlines or are busying themselves with acquisitions that will help them spread these costs. One advantage that they have is a standardised product, which allows for easier assimilation of the newly acquired business and potentially faster turn-arounds.

The responses of mainstream operators could also prove damaging as could further development of high-speed rail services or the introduction of more flexible charter services. The distinction between scheduled and charter airlines may be lessening, particularly with the creation of low-cost airlines. One challenge to low-cost carriers identified by Sir Michael Bishop of British Midland is that the favourable treatment in terms of low rates offered to low-cost carriers by airports may be coming to an end. These airports, as they become more popular, will want to charge the going rate. He adds that the reliance of some low-cost carriers on duty free sales to generate profits could also prove problematic with the abolition of duty free in the EU.

Clearly keeping costs down and responding to competition is going to be difficult. (Gallacher, 1997) advises that partnership has been proposed as a means of survival for low-cost European carriers faced with fierce competition from incumbents. This would help new-entrants to build critical mass. This is something the USA new entrants have opted to do in many cases (Walker, 1997). As has been the case with many aspects of deregulation it is important to look to the birth of the low cost model, namely, North America as an example to learn from their experience while taking account of the difference in airline environments in Europe and the USA.

Given our research we can say that airlines are volatile equities, with price movements being affected by a number of variables prevalent in the airline industry. Certain limitations arise when using regression techniques and in particular when we are restricted by our finite data stream. From the analysis of our model it would be difficult to say that any future predictions can be made on the price of shares for our samples, however, when seen in conjunction with the underlying fundamentals of these companies there begins to develop a suggestion that our four variables do play a part in the pricing of these equities, albeit lacking the profound complexity that one would expect from such an exercise. To obtain far greater results that provide clarity and direction a host of economic factors would need to factored into the model, although one cannot say with certainty whether these would shed any greater light on the research.

APPENDICES

Company	Share Price	Year	Passengers	Staff	Aircrafts	Destinations
Ryanair	6348	2000	5,600,000	1388	26	41
Ryanair	5541.06667	2001	7,400,000	1476	36	46
Ryanair	4565.79167	2002	11,100,000	1531	41	56
Ryanair	4029.84167	2003	15,700,000	1897	54	85
Ryanair	4519.83333	2004	23,100,000	2302	72	90
Ryanair	5167.525	2005	27,600,000	2700	87	107
Ryanair	5940.89167	2006	34,800,000	3063	103	115
Ryanair	6404.98333	2007	42,500,000	4500	133	120
Easy Jet	375.375	2000	5,628,215	1386	18	18
Easy Jet	411.215	2001	7,115,147	1632	26	17
Easy Jet	399.5833	2002	11,400,000	3124	64	35
Easy Jet	232.7708	2003	20,332,973	3372	74	38
Easy Jet	215.4792	2004	24,343,649	3727	92	44
Easy Jet	265.5	2005	29,557,640	4152	109	64
Easy Jet	440.0417	2006	32,953,287	4859	122	74
Easy Jet	657.8	2007	37,200,000	6259	137	82
BA	300	2000	46,578,000	65,640	366	188
BA	301.2292	2001	44,462,000	62,844	338	167
BA	176.6042	2002	40,004,000	60,468	360	160
BA	161.3125	2003	38,019,000	53,440	330	156
BA	253.6875	2004	36,103,000	49,072	291	154
BA	280.7083	2005	35,717,000	47,472	290	149
BA	394.3125	2006	32,432,000	47,012	284	148
BA	457.9773	2007	33,068,000	42,755	242	147
Lufthansa	1000	2000	47,000,000	69,523	331	340
Lufthansa	1003.472	2001	45,700,000	87,975	345	339
Lufthansa	841.8333	2002	43,900,000	93,796	344	327
Lufthansa	723.9583	2003	45,400,000	93,246	382	332
Lufthansa	788.9167	2004	50,901,000	90,673	377	347
Lufthansa	742.5833	2005	51,255,000	92,303	413	373
Lufthansa	1071.125	2006	53,432,000	93,541	430	420
Lufthansa	1406.992	2007	45,828,000	105,199	511	452

APPENDIX 1 – DATA USE D IN EMPIRICAL RESEARCH – SOURCE: BLOOMBERG, DATASTREAM, YAHOO

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