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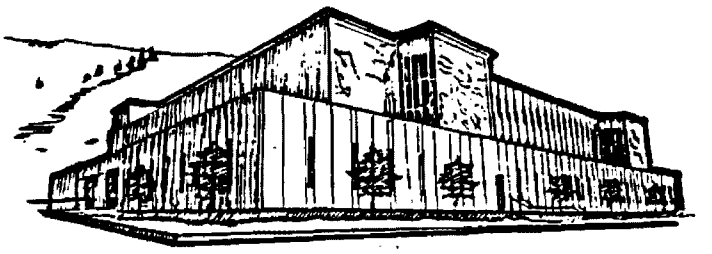
Airline fare pricing

Zeljko Ivic
The University of Montana



AIRLINE FARE PRICING

By

Zeljko Ivic

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Nader H. Shooshtari

Dr. Nader H. Shooshtari
Chairman, Board of Examiners

Dr. Raymond C. Murray
Dean, Graduate School

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CHAPTER I:

INTRODUCTION

The pricing practices of U.S. airlines, along with the overall situation of the U.S. airline industry, are widely discussed topics in today's business world. There seems to be a never ending controversy about rationality of prices imposed by airlines for their services to the travelling public and the objectives they want to accomplish.

This controversy reflects the public's great interest in air transportation and its importance to the country as a primary means of intercity travel. Besides, commercial aviation is a very important factor for the economy, employing over 500,000 people and contributing over $ 300 billion yearly to the gross national product. U.S. airlines are also a major contributor to the nation's balance of payments. For example, American Airlines as the largest U.S. airline is number 18 among U.S. exporters (Crandall, 1992).

Purpose of the Paper

The purpose of this paper is to provide for a greater understanding of price formulation in the U.S. airline industry. This paper will describe and analyze the factors influencing the making of pricing decisions by airlines in the domestic air travel market.

Justification of the Paper

Air transport is of far reaching importance. It is not only a means for the travelling public to get from one point to another, but also the major logistical component providing distribution service for other industries where surface transportation cannot provide the necessary speed and quality of service. As such, many parties have intense interest in the well-being of the airline industry.

Yet, in spite of its efficiency and reputation as being the best air transportation system in the world, the U.S. airline industry is in trouble. Over the time of its existence since 1938 it has actually shown a net loss of $ 2.5 billion and during the last 25 years its average return on equity was only 5%, compared to the 13.6% realized by the nation's top 500 industrial companies. Recently, financial problems of U.S. airlines have become even more dramatic with a combined loss of over $ 6 billion in the 1990s (Crandall, 1992). Several airlines have gone bankrupt and as of 1992 there are still three airlines, America West, TWA, and Continental, operating under Chapter 11 bankruptcy protection.

The obvious reason for the unprofitability of the U.S. airline industry is that airlines do not get adequate compensation for the services they provide to cover their expenses and render

a reasonable return to their stockholders (Crandall, 1992). Yet, this situation proves to be only a symptom with the real problems being rooted in the question as to of **why** airlines are not getting appropriate compensation in the market. This paper will examine airline pricing strategies, thus providing valuable information about the circumstances of their formation, insights into the airline economics, and a comprehensive understanding of the airline business

Definition of Terms

In this section, a number of important terms are defined in order to familiarize the reader and to facilitate their understanding throughout the paper. These terms are among the standard terminology used in the air carrier industry.

Average Load Factor

The average load factor is the percentile share of occupied seats from total available seats during a particular time period. Usually, average load factors are calculated for the time during one business year, thus enabling airlines to use average load factors in order to determine the influence of changes in passenger numbers on the operational and financial success of airlines.

Seat-Mile

A seat-mile is a capacity figure, and expresses one available seat transported the distance of one mile. For example, if an airline has a scheduled flight by an airplane having 100 seats, on a route having a distance of 1000 miles, the total capacity available would be 100,000 seat-miles. Seat-mile figures are used in operational planning, as well as financial planning in order to determine cost of production of the services they provide.

Slot

A slot is the right for a scheduled landing and departure on a specific airport, and at a specific time. Originally, the slot system was introduced in 1969 as a temporary system for four congested airports, New York-JFK, New York-LaGuardia, Chicago-O'Hare, and Washington-National. Yet, it still is in place today.

Research Methods

Since the character of this paper is non-experimental, secondary data sources will be used. The largest part of the data will come from current newspaper and magazine articles due to the rapidly changing subject of airline pricing. The

remaining data will be obtained from the academic literature on airline pricing and related topics.

Contributions of the Paper

In describing and analyzing the pricing strategies used by airlines, this paper should contribute significantly to an understanding of the underlying forces shaping airline pricing policies, and with pricing being one of the principal elements of airline business policies, to a more profound understanding of the airline business overall.

This paper will be of value especially to airline executives, but also to legislators involved in regulatory control of airlines and commercial aviation, and leaders of industries that rely on airlines as a major component of their logistics and transportation system. Finally, it will contribute to a more profound knowledge of airlines by individuals who are not professionally interested in airlines, mainly the travelling public and indirect consumers of airline services.

CHAPTER II :

HISTORY AND DEVELOPMENT OF THE U.S. AIRLINE INDUSTRY

Background

Today's price wars are only a visible symptom of deeper problems within the airline industry. They represent the painful change from a regulated market which existed for 40 years, from 1938 to 1978, to a currently deregulated market. Current airline policies and strategies, in particular pricing strategy originated as a direct response to structures during regulation. The old policies and strategies of a regulated market were regarded as suboptimal by the airlines after deregulation and as such were quickly replaced by a new approach of doing business and operating an airline. In order to understand current airline pricing strategies, the historical background and pricing practices during regulation need to be examined.

The impetus for civil air transportation in the U.S. started in 1938 with the Civil Aeronautics Act. In contrast to other emerging industries, the airline industry was promoted as an infant industry (Douglas, Miller, 1974). It was put under strict governmental control and regulation from the beginning of its existence, with the primary goal being to make air travel a major means of intercity commercial transportation (Douglas, Miller, 1974). This goal was reached very soon as passenger numbers soared.

By 1940, the Civil Aeronautics Board (CAB) was created, as part of the Department of Commerce, and put in charge of commercial aviation. Its responsibilities, among others, were (a) granting the right to air carriers to service specific routes, thus regulating entry into the airline market, (b) the regulation of rates carriers were allowed to charge, and (c) setting and enforcing standards for air safety (Douglas, Miller, 1974).

Time of Regulation 1938-1978

A major characteristic of the regulated airline market was the tight control the CAB held over fares and entry to the market. The intention was to satisfy national needs for growth and development by establishing an airline market structure where excessive and destructive competition would not jeopardize the objectives of what was considered a "public utility" (Dempsey, 1989). In order to extend service by adding new routes, airlines had to demonstrate that they were required by public convenience and necessity (Morrison, Winston, 1986).

Section (404,a) of the Civil Aeronautics Act required carriers "to establish, observe, and enforce just and reasonable individual and joint rates, fares, and charges". The CAB had the delicate responsibility to "determine and prescribe the

lawful rate, fare, and charge" in cases where it saw "unjust or unreasonable" rates, fares, and charges (Section 1002,d). An appropriate fare, rate, and charge was described under section (1002,e,5) of the Federal Aviation Act, which states that the Board must take into consideration "the need of each carrier for revenue sufficient to enable such a carrier, under honest, economic, and efficient management, to provide adequate and efficient air carrier service" when setting fares. In order to fulfil its task, the CAB employed a strategy of determining airline costs by using several approaches, such as cost formulas developed by its Bureau of Economics, then adding a "reasonable" profit, and then designating this amount as the fare airlines were allowed to charge (Douglas, Miller, 1974).

During the development of the U.S. airline industry it proved to be quite difficult to follow changing cost structures in a dynamic market such as air transportation. Innovations like the introduction of jet aircraft in the 1960s with their much lower operating costs than propeller-powered aircraft challenged the CAB in its ability to keep up with the changes. To the frustration of airlines the CAB did not succeed in reflecting these cost changes by lowering fares quickly enough to the extent costs had decreased. Another problem proved to be the CAB's slow reaction to price changes caused by fluctuations in market demand, resulting in inadequate prices

for different levels of market demand (Douglas, Miller, 1974). All this led to two large, in-depth investigations, 1956-1960 and 1970, which turned out to be a great disappointment for the airlines. Despite the enormous resources devoted to this endeavor, these studies provided no clear direction or solution to pricing problems in the air carrier industry (Douglas, Miller, 1974).

Although airlines were strictly limited in their freedom to fly additional routes and charge fares which they thought would be appropriate, flight frequency was not explicitly regulated once an airline was awarded the right to serve a certain route. The logic behind the practice was to eliminate all factors of competition but service. Since flight frequency was the major component of an airline's service, and determined the quality of its service to a large extent, competition was possible and desired by the CAB in this area. Destructive price competition would be kept out of the market, while still maintaining some kind of competition in order to serve the public interest in the desirable way (Dempsey, 1989; Morrison, Winston, 1986).

Consequently, airlines provided an excessive number of flights, leading to low passenger load factors, higher costs than necessary, and as a result higher fares. Several studies in the early 1970s concluded that travelers lost $ 1 billion

per year due to the misallocation of resources for providing excessive flight frequency (Douglas, Miller, 1974; Morrison, Winston, 1986)

Another important issue during regulation was that of cross-subsidization, the idea being to use profits from some markets to offset losses in others. The CAB actively promoted such behavior, especially to sustain adequate service on short-haul routes where cross-elasticity of demand in relation to other forms of transportation was high. This was funded by profits from long-haul routes where travelers usually did not have much choice and were not as sensitive to price changes (McAvoy, Snow, 1977).

Change to a Deregulated Market

As commercial aviation grew larger in the postwar era, it became more and more apparent that its regulated structure was inherently inefficient. The turning point came in 1976, with the inauguration of Jimmy Carter as president, and the subsequent appointment of Alfred Kahn, a Cornell economics professor as Chairman of the CAB.

Being a strong opponent of a regulated airline market, Kahn criticized the industry's enormous resource misallocation of

offering excessive capacities, leading to extraordinary inefficiency. As a result, he saw the regulated system as causing higher fares than would occur in a market with more freedom for airlines, and criticized the market structure for not being suitable to reflect customer needs since it denied travelers the range of price/service options they wanted (Dempsey, 1989).

TABLE 1: DIFFERENTIAL BETWEEN INTRA-STATE AND INTER-STATE FARES IN CALIFORNIA, 1972

Length of Haul	Intra-State Fares per mile	Inter-State Fares per mile	Percent Inter-State above Intra-State
Very short Haul (65 miles)	16.923 c	23.585 c	39.4
Short Haul (109 miles)	9.363 c	16.858 c	80.0
Short-medium Haul (338-373 miles)	5.021 c	9.685 c	92.9

Source: Simat, Hellisen, and Eichner, Inc., An Analysis of the Intrastate Air Carrier Regulatory Forum, vol. 2, table 10, p. 47

During the 1970s, the issue of regulation caught the public attention when three carriers operating in California and Texas namely PSA, Air California and Southwest as intra-state carriers, thus being exempt from federal regulation by the CAB, provided a high level of service while keeping fares well

below those charged by the significantly larger inter-state carriers. Surprisingly, in addition these carriers even earned profits, while regulated carriers remained unprofitable (NcAvoy, Snow, 1977).

This obvious proof of the superiority of a nonregulated market, as well as experiences by the CAB itself, led to a legislative initiative in Congress that ended with the Airline Deregulation Act in 1978. Regulations in some areas of air service were still upheld, such as the prohibition against terminating "essential air service" to "eligible" points unless the CAB secured a replacement carrier, even if it meant offering a subsidy to provide a reasonable profit, in order to provide small communities with air service. In spite of some restrictions imposed to ease the transition to a nonregulated market, the cornerstone of the Airline Deregulation Act was the creation of a free market of air transportation.

CHAPTER III :

AIRLINE ECONOMICS AND COST STRUCTURE

Cost Structure of Airlines

In the airline industry, as in most other industries, a major determinant of prices for products or services is costs which are incurred providing the particular product or service. Consequently, it is important to be familiar with the structure and character of costs of U.S. airlines in order to understand the pricing system for services provided.

As an example of the cost structure of U.S. airlines during one fiscal year, the percentile distribution of the costs of the three major U.S. airlines (American Airlines, United Airlines and Delta Air Lines) is shown in Table 2.

TABLE 2: OPERATING COSTS OF THE THREE BIGGEST U.S. AIRLINES DURING FISCAL YEAR 1991 (IN $ MILLION)

AIRLINE	AMR	UAL	Delta	Total	Percent
Wages, salaries and benefits	4,340	4,296	3,752	12,388	35.74
Aircraft Fuel	1,821	1,674	1,599	5,094	14.70
Commissions	1,148	2,046	923	4,117	11.88
Depr. and Amort.	883	604	521	2,008	5.79
Maintenance	673	363	326	1,362	3.93
Rentals and fees	1,238	1,085	837	3,160	9.12
Food and beverages	624	293	409	1,326	3.83
Other	2,155	1,797	1,252	5,204	15.01

Source: AMR Corp., UAL Corp., and Delta Inc., Annual Reports, 1991

The largest single operating expense of U.S. airlines is wages and salaries, representing 35.7% of total operating costs of the three biggest airlines in the U.S. This reflects the fact that air transportation is a service industry, with labor as its primary factor of production. For example, the largest U.S. airline alone, AMR, employed 116,264 people in 1991, of whom 11,492 were highly paid pilots. The second largest single operating expense at American was aircraft fuel, which accounted for 14.7% of total operating expenditures at AMR (AMR Corp., Annual Report 1991).

A unique characteristic of the airline business is that of very high investments being required for aircraft, terminal facilities, computer reservation systems, and other capital accoutrements in order to provide air transportation service. For instance, in 1991 AMR alone had $ 11 billion worth of equipment and property, representing 69% of its total assets (AMR Corp. Annual Report 1991).

As a direct consequence of extremely high capital investments, airlines face high capital expenditures in the form of depreciation, amortization and interest expenses. Since capital expenditures can reach up to 30% of total revenues, as in the case of AMR from 1986 to 1991 (Crandall, 1992), they represent a significant factor of uncertainty in the airline's quest for profitability.

During recent years, airlines have experienced an enormous escalation in costs. The reason behind this is two-fold. First, it reflects the airline's expansion of operations with an ever increasing number of flights and services (Crandall, 1992), which is primarily due to changes in the competitive environment. In order to increase their overall service and thus competitiveness, every airline of the 'Big Three' (AMR, UAL, and Delta Air Lines) is increasing the number of flights. Other airlines, as well as the 'Big Three' airlines among themselves, then have to follow in order to stay competitive.

The second reason for escalating costs is the inflation of prices for airplanes. Nowadays, airplanes are much more sophisticated and thus expensive, and have more and better flight equipment (e.g., more advanced avionics). Consequently, airplanes such as the Boeing 767 cost around $ 75 million, and intercontinental airplanes well over $ 100 million.

A problem airlines constantly face is that of changing costs caused by price fluctuations for aircraft fuel. Since aircraft fuel represents around 15% of total operating costs, even a small change in the price of aircraft fuel causes a significant increase in operating cost, forcing profits to decline. For instance, from July 1989 to January 1990, the price per gallon aircraft fuel jumped from 54.3 cents to 79.6

cents per gallon, a 46% increase in just seven months (Delta Air Lines Inc., Annual Report 1991). How significant price increases for aircraft fuel can be, is shown by the example of Delta Air Lines during fiscal year 1991: the increase in the average cost of aircraft fuel by 18% from 1990 to 1991 required Delta Air Lines to pay an additional $ 187 million for fuel (Delta Air Lines Inc., Annual Report 1991).

Fixed Costs vs. Variable Costs

Airlines have a unique structure of costs which is comparable to only a few other industries, of which most are also providing some kind of transportation service. Its major characteristic is that of a high percentage of fixed costs relative to total costs, and relatively low variable costs. Of the eight groups of operating costs (Appendix 1), only two are truly variable, 'Commissions' and 'Food', with 'variable' meaning that they increase if an individual passenger decides to buy the service of air transportation from an airline.

During fiscal year 1991, only 15.7% of operating costs of the 'Big Three' were variable, with the rest of 84.3% of operating costs being fixed (Table 1). This tendency toward a cost structure of high fixed costs and low variable costs is even more apparent when taking into account capital spending in the

form of interest payments, in addition to operating costs, which increase the share of fixed costs even further.

General Airline Economics

Airline economics are of a distinctive nature, reflecting the unique characteristics of the airline business. They are driven by three primary imperatives.

First, in the short-term, airlines tend to focus on covering variable costs only. This is because airlines have to make huge capital investments, thus incurring high fixed costs, while incremental costs remain relatively small. Hence, airlines have the weighty temptation to fill any empty seats since most of the costs for providing these seats are already incurred, and even very low discount fares cover variable costs (Crandall, 1992).

Second, airlines have very little room to reduce their costs during times of reduced demand, and thus reduced revenues result. This is because cost reduction would only be possible by reducing flight frequency, and since flight frequency is the main determinant of service quality, it would be disastrous in a market where competitors are not doing the same (Crandall, 1992).

Third, it is essential for airlines to have a consistent and predictable business environment as far as it is legislated and regulated by the government (Crandall, 1992). This is because airlines have to plan so far ahead. Deciding to buy a particular airplane means a long-term commitment, with each airplane being in the carrier's fleet for twenty to thirty years, that is if the airplane is not sold before the end of its useful life. The implication for planning of supporting equipment, such as ground facilities and computer systems, is that such planning has to be aligned with the planning of flight equipment, thus causing an overall planning horizon of twenty to thirty years for airlines.

Government and regulatory bodies have to take great care and responsibility in creating rules for airlines. Only a stable and predictable set of ground rules would enable airlines to plan for the future (Crandall, 1992). Changes in rules, such as those for pollution and noise control, can mean that investments in flight equipment can lose great portions of their worth, in case operating expenses increase due to restrictions, additional fees, etc.

Another important issue is that the government restricts access to the four major airports Chicago-O'Hare, New York-LaGuardia, New York-JFK, and Washington-National through the

implementation of the slot-system. In some cases slots at these airports are taken away from one airline and given to another. Here, too, inefficiencies arise since airlines cannot accomplish their previously set operations plans, especially when flight equipment cannot be utilized in the way and to the extent as planned.

Due to the fact that airline costs are to a large extent fixed costs, the break-even point in the airline industry is reached relatively late, and, compared to other industries, only after rather high revenues. But, when reached, profits pick up extremely fast since fixed costs are already covered by gross margins of previous sales, and additional sales contribute with their high gross margins to profits.

Consequently, the airline business is very volatile and unpredictable. Airlines have great difficulty in planning both fleet expansions and their supply of air transportation capacity since expected demand can change quickly. Similar problems arise in the financial field of airline planning, where the same unpredictability causes uncertainty regarding the extent of dividend payouts, additional stock issuance, etc. One airline, Delta Air Lines, has implemented a dividend policy providing consistent dividend payouts for common shares in spite of changing levels of profitability. Especially during 1991, the worst year in Delta's history, it proved to

be very difficult to uphold this policy, taking into account Delta's $ 343 million net loss (Delta Air Lines, Annual Report, 1991).

To illustrate this unique example of business economics, the situation of Delta Air Lines during fiscal years 1990 and 1991 serves well. In 1990, the average load factor to break even was 58.0%, and by surpassing it with an average load factor of 61.2%, Delta earned $ 303 million in net income. On the other hand, during 1991, with an average break-even load factor of 62.6%, and by reaching only an average load factor of 59.5%, Delta suffered a net loss of $ 324 million (Delta Air Lines Inc., Annual Report 1991).

Airline Economics of Operations

From the days of regulation up until now airlines have changed the way they provide air transportation to passengers. While previous connections between city-pairs were mostly direct, airlines started to change to a hub-and-spoke route structure during the late regulatory period in the late 1970s, which has been accelerated by post-regulatory developments. Hub-and-spoke systems work by feeding passengers from their origination airport on spoke routes into a major airport

(hub), where they have to change to another flight that takes them to their destination airport.

Behind the system of hub-and-spoke is a clear operational economic rationale of costs savings. It is referred to as economies of scope, and arises when additional costs due to rerouting passengers are more than offset by cost savings due to a more efficient usage of labor, equipment, and fuel which are associated with large wide-body aircraft (Morrison, Winston, 1986).

Another important advantage of the hub-and-spoke system, compared to direct service, is its role as a marketing tool. Since most city pairs have a volume of traffic too low to justify a direct connection, airlines would not offer any service to most destinations under a direct service system. In contrast, a hub-and-spoke system is well able to accommodate all passengers out of a particular city wishing to fly to one of the destinations served from the airline's hub airport (Morrison, Winston, 1986).

The significance of this advantage for an airline in the market is shown in a study by Carlton, Landes, and Posner (1980). They found that passengers much prefer single-carrier service over having to change airlines in midjourney. Changing airlines in most cases would be the only option of

air travel for passengers travelling between a city-pair not served directly by a particular airline which shows how much of an advantage a hub-and-spoke system really is.

CHAPTER IV :

THE AIR TRAVEL MARKET

Purpose of the Air Travel Market

The purpose of the air travel market is to facilitate the provision of air travel services for the public. Since the provision of air travel services also would be possible in other ways, such as through quotas, a market is only one of several viable ways. However, market mechanisms have been chosen by the legislature since it was believed that this would serve the public's interest best, as with many other goods and services, too.

Markets are not equally competitive. Some have a higher degree of competitiveness, others a lower. But, it is always the market that determines how well competitive forces can be utilized in sustaining a well-functioning market, made up of factors such as desirable pricing, quality, and the like.

A market is able to serve the public only if the interplay between supply and demand is facilitated (Douglas, Miller, 1974). As Robert Crandall (1992), CEO and Chairman of AMR, puts it, "...the only way to be sure we end up with an airline system that offers the public modern airplanes, the highest possible safety standards, competitive pricing, and a marketplace in which consumers can pick and choose among many alternatives -- is to trust in the power of the market ...".

Characteristics of the Air Travel Market

The market for which air travel is produced, and at which air travel is traded, is the market for intercity transportation in the U.S. (Cherington, 1958). It is divided into several sub-markets, such as automotive, bus, rail, and air transportation all of which have the common goal of providing intercity transportation. However, the difference among these sub-markets is the means by which transportation between city pairs is provided.

Intercity transportation cannot be offered in one sub-market, such as the air intercity transportation sub-market, without the interference from other sub-markets. Besides suppliers of intercity transportation on the same sub-market, offering a service of similar quality, there are also suppliers in other sub-markets, who supply the same service, but in a different way and with a different quality. Hence, airlines have to take in account not only market forces influencing the air travel sub-market, but also need to look at other sub-markets of intercity transportation, such as bus-lines and railroads where similar services are offered.

An important characteristic of the airline industry is that it provides a good which is "intermediate" (Douglas, Miller, 1974). This means that its purpose is not to give benefit

from consumption of the service itself, but to gain access to something else giving benefit to the traveller, such as making a business call, or visiting a friend.

As a consequence, market characteristics are highly influenced by the fact that consumers regard one airline's seats as ready substitutes for another airline's seats (Crandall, 1992), in a commodity-like fashion. Since the result of usage of an airlines's service namely, arriving at a destination, is what counts, the quality of the process of receiving the service is of only minor importance.

Besides the commodity-like character of air travel, another very important characteristic of the air travel market is customer access to nearly perfect market information. With the emergence of computerized reservation systems (CRS's), travel agents can provide customers with information about every airline's price for a desired route, as well as available seating (Crandall, 1992). Especially for competitive strategies of individual airlines this combination of a commodity-like service and perfect market information has extremely important implications, and will be explored further in Chapter V.

The Demand for Air Travel

Before there is demand for air travel by an individual, there is always a rather complex travel decision. That decision can be separated into three components: (a) whether to travel at all, (b) by what mode: air, auto, bus, or other, and (c) at what time (Douglas, Miller, 1974).

Once the travel decision has been made, it can be assumed that the traveller wants to minimize the cost and inconvenience associated with taking the trip. Consequently, besides the monetary cost represented by the paid price, the traveller also incurs a "cost of inconvenience" from (a) trip time, and (b) schedule inconvenience (Douglas, Miller, 1974). Trip time is the time enroute, while schedule inconvenience arises from losses in time due to an airline schedule incompatible with the traveller's schedule. As a result, in calculating total cost of travel, the traveller assigns a quantitative value to time, then calculates and adds costs of inconvenience relative to the monetary amount paid.

The character of the traveller's total costs is made up from the three components (a) monetary costs, (b) cost of trip time, and (c) cost of schedule inconvenience and has significant implications for the demand of air travel. First, in competing with other modes of travel, air travel has a

great advantage of time, while having a disadvantage in fares. As a result, the value of time for the traveller becomes the determinant of which mode of travel to choose (Douglas, Miller, 1974). Concerning substitution elasticity, demand for air travel increases as value of time increases, with the current trend being to the advantage of air travel since value of time is increasing.

Second, the substitutional advantage of air travel to ground travel increases with distance. The reason is that the time advantage of air travel, expressed monetarily, grows faster with distance than the cost advantage of ground travel (Douglas, Miller, 1974).

Third, demand for air travel is highly income elastic. This is not only due to the inherent increase in air travel with higher income, but also to a change in time value (Douglas, Miller, 1974). With a higher income, the value an individual assigns for his or her time increases. As a result, the cost for trip time and schedule inconvenience increases significantly, making the total cost of ground travel much higher than the cost of air travel.

Fourth, demand for air travel also is shown to be very price elastic. This can be explained with a reduction of total costs for air travel, putting the total cost of air travel

under the total costs for other competing modes of travel. Especially for air travel in coach class, high price elasticities can be observed while demand for first class air travel is rather inelastic, and to some extent even totally inelastic. The reason is the different values of time travellers assign in different classes. Coach travellers place a relatively low value on time. Consequently, their time cost is rather low, while the ticket price represents a high percentage of the total cost. With a ticket price reduction their total travel cost decreases sharply, motivating an elastic reaction.

In contrast, first class passengers place a high value on time. Their total cost is mostly caused by loss of time, while the ticket price represents an only relatively small part of the total cost. Hence, a ticket price reduction does not reduce their total cost sufficiently to cause an elastic reaction of increased demand.

Another issue besides the level of demand is the quality of demand, meaning the service level, features, etc., which are demanded by the travelling public. The shape of today's product "air travel" is of a uniform character, with nearly every airline being a "traditional airline," and offering the same product. With some few exceptions, passengers do not have the choice, for example, to have no meals during flight,

no advanced boarding passes, and thus lower quality of service, while paying a lower price. Here, there is still unsatisfied demand.

The Supply of Air Travel

Currently, one of the most widely discussed topics among stakeholders of airlines, as well as in the airline industry itself, is the trend toward concentration of air travel suppliers. Since deregulation in 1978, many large scale acquisitions and mergers have taken place, representing deals worth hundreds of millions of dollars, and involving some of America's most prestigious carriers (Table 3). This has lead to criticisms that an overly concentrated air travel market may not be in the best interest of the public, and could jeopardize the provision of reliable and affordable air transportation.

Alfred Kahn, last chairman of the CAB, and an outspoken advocate of deregulation, saw fears of chaos from an excessively concentrated market as unrealistic (Dempsey, 1989). He argued that "...almost all of this industry's markets can support only a single carrier or a few: their natural structure, therefore, is monopolistic or oligopolistic..." (Dempsey, 1989).

TABLE 3: MAJOR AIR CARRIER MERGERS, ACQUISITIONS, PURCHASES AND CONSOLIDATIONS SINCE PROMULGATION OF THE AIR DEREGULATION ACT OF 1978

ACQUIRER	ACQUIREE(S)/PRICE	MARKET SHARE IN 1989 IN %
American	Air Cal	16.6
United	Pan Am, Pacific Routes ($ 750 million)	16.2
Texas Air	Continental ($ 100 million) Eastern ($ 675 million) New York Air People Express ($ 298 million) Rocky Mountain	15.9
Delta	Western ($ 860 million)	13.3
Northwest	Republic ($ 884 million)	9.6
TWA	Ozark ($ 224 million)	7.2
US Air	PSA Piedmont ($ 1.2 billion)	7.2
Pan Am	National ($ 400 million) Ransome	5.9

Source: Dempsey, 1989

Kahn argues that few economies of scale exist; hence potential entry with a low entry barrier would keep monopolists from extracting monopoly profits (Dempsey, 1989). Crandall sees the chance of the 'Big Three' (American, United, and Delta) becoming an oligopoly as being "very small," and shows confidence that such a problem could be "quickly fixed," hinting at the responsibility of the government to facilitate a competitive air travel market (Crandall, 1992).

Without doubt, the U.S. airline industry currently is highly concentrated, which, in combination with the inherent high price and income elasticities, brings the airline industry into a dilemma of two possible ways to achieve its desired high profits. One possibility is to act cooperatively and in a coordinated way in order to realize profits close to the theoretical monopoly maximum. The second option is to act on an individual basis, lowering prices relative to competition, and thus, by taking advantage of the high price sensitivity, increase market share and profits (Caves, 1962). Clearly, the individualistic approach is the one that is currently employed in the U.S. air travel market, and the one which will be further explored in the following chapter.

As a result of changes in demand, suppliers of air travel service are currently thinking about changes in the product-price mix of their supply. They see the inevitable need for more options for customers, especially after the dramatic rise of low-cost, no-frills Southwest Airlines (Crandall, 1992). But, these changes may prove to be difficult: if "traditional" airlines try to offer similar low-quality air transportation besides their "regular" high-quality and high-service flights, they may be in danger of tarnishing their image. On the other hand, if they do not offer a better price-product mix, their market share may decline, to the advantage of airlines providing the desired price-product mix.

Whole market segments in fact have become dominated by low-quality carriers, such as Southwest Airlines in California, where American is even considering a pullout (Business Week, July 6, 1992).

Air Travel Market Dynamics

As mentioned earlier, a market-economy of air transportation has been designated by legislation as serving in the public's best interest. But, in order to work well, the powers shaping the market, which are demand on the one side, and supply on the other side, have to be balanced. Here again, government has to play an important role by setting rules that promote that balance.

Deviations from balance in the market always mean a disadvantage to some of the stakeholders of the airline industry. If there is more demand than supply, travellers lose since prices will be much higher than the ideal. On the other hand, if supply is inappropriately high, investors and creditors of the airline industry lose. But, what both cases have in common, is the immense influence of discrepancies between demand and supply on pricing.

In today's air travel market, the second alternative, that of an extensively high supply, represents current reality. As a result, competition among airlines for available passengers is high, manifesting itself in highly visible cut-throat pricing. Obviously, the pricing situation does not serve the interest of airlines and their financial stakeholders who are calling for corrective action. Crandall, for example, calls for allowing the market to establish a "reasonable balance between supply and demand" to make it competitive and profitable (Crandall, 1992). This, of course, contradicts another important objective, namely that of creating a competitive market. With the belief that competition is positively correlated with the number of airlines, it is difficult to take that over-supply from the market.

A further influential factor on the interplay and balance of supply and demand is the fluctuation of demand due to external factors. Events such as the Gulf War, when travellers tried to stay away from air travel because of fear from terrorism, quickly lowered demand for air travel in a dramatic manner. Consequently, with the very dynamic character of the air travel market, the fragile relationship between supply and demand was distorted, largely to the disadvantage of providers of air travel.

CHAPTER V :

THE COMPETITIVE ENVIRONMENT OF THE AIRLINE INDUSTRY

The Employment of Competitive Forces in the Market

From the beginning in 1978, the current air travel market has been based on competition. It was believed, that market forces would create competition in a desired way, where passengers would be provided with a good product at a low price. In a competitive market, the government expected, the product of air travel would be provided by the most efficient producers, with the industry enjoying an efficient allocation of resources. In a competitive marketplace, contrary to experiences during the time of regulation 1938-1978, input-waste, excess-capacity, or other misallocations are not expected to occur (Dempsey, 1989).

However, besides the potential positive effects of a competitive market, the government was also very well aware of the chances of possible negative effects of competition. In a study of federal regulation by the Senate Committee on Governmental Affairs in 1978, "destructive competition", meaning a scenario of periodical shortages, poor service, slow technical advancement, and inadequate investment, was identified as possible but "...unlikely in the cases of airlines...".

This shows the unpredictability of the air travel market which was driven by market forces after deregulation. Not only the

conditions of the regulatory period did not apply, but also the deregulatory experiences of related industries, including motor carriers and railroads were not directly relevant to the air carrier industry. The fact that no other major air travel market in the world is working on competitive principles demonstrates how risky such an endeavor is.

The current state of knowledge regarding the viability of employing competitive forces in the air travel market in order to reach a high level of benefit for both, travellers and airlines, is still limited. It remains a large-scale economic experiment. However, there are already concrete observations which can be made, and which give information regarding the extent to which competition is affecting and shaping the air travel market, thus giving clues about implications for pricing.

Means of Competition

When the air travel market was deregulated in 1978, the primary means of competition was service, and since airlines were already allowed to alternate fares to a certain extent, the price. This has changed profoundly. Today, the most important and most effective means of competition is price. This is due to a number of reasons.

First, and most important, the unique economic considerations of the airline business cause airlines compete primarily in pricing. As discussed in chapter III, costs are largely fixed, with incremental costs representing only a minimal percentage. Consequently, every fare which is above the incremental cost level, is contributing to the coverage of fixed costs. It is better for an airline to have a passenger on board who covers at least some part of fixed costs than not having him or her at all. Since incremental costs for one passenger on a transcontinental flight run as low as $30 for meal and increased fuel burn due to increased weight of the airplane, airlines have a great deal of room for decreasing fares, while still getting a contribution to fixed costs. Consequently, the use of pricing as a competitive instrument is widely practiced.

Second, and as mentioned before, air travellers are very price elastic. This is not only in relation to the travel decision itself, that is to travel or not to travel, but also in relation to the choice of an individual airline by the consumer. Even a small difference in fares is likely to be a major, if not dominant, factor in the final selection of an airline by a passenger.

Third, customers regard air travel as an intermediate good. The implication is that travellers do not give as much

consideration to the quality aspect of air travel, as they would for non-intermediate goods. What counts mostly, is the result of consumption, not the mode and benefits during the consumption itself. Passengers simply appreciate price cuts more than augmentations to extravagant food, and individual TV screens. Accordingly, airlines do what attracts passengers, and that is offering good prices relative to competitors.

Fourth, and related to the reason of air travel being an intermediate good, is the fact that consumers have very little brand loyalty. As a result, obstacles for an airline to attract previous customers of another airline are few. This is because air travel service is considered a commodity. Airlines are unable to give their product a unique identification in order to differentiate it from the products of other airlines. The most important incentive until now for increasing brand loyalty has been the introduction of frequent flyer programs, an option which was first introduced in 1981 by American Airlines and quickly followed by other airlines (Business Week, July 6, 1992). The general idea of a frequent flyer program is to give travellers free tickets after they have flown a certain number of miles on the same airline. The number of miles varies from airline to airline but the basic idea remains to encourage previous customers to select the same airline for a future flight.

Fifth, airlines use price as a means of competition because it is a very viable instrument for short-term, operational competition. In contrast to other ways of gaining a competitive advantage, such as having a good image, using modern equipment, etc., a price advantage can be achieved in a matter of days, namely the time it takes to let potential customers know what the fares are.

Besides price as the major means of competition, the second sphere of competition is that of quality of service. As its major elements, service quality includes frequency of service and number of destinations served, while flight amenities and 'frills' only play a minor role. This is because travellers usually shop for a definite destination, at a preferred date and time, and through a travel agent who usually has access to all airlines. In cases where prices are about equal, the traveller is most likely to choose that airline which can match his or her itineraries best. Thus, service is giving airlines the competitive advantage needed to attract customers.

Barriers to Competition

All barriers to competition have in common the characteristic of limiting the influence of competitive forces in the market.

Usually, this means that the market will perform on a sub-optimal level, with additional costs going to consumers compared to an ideally competitive market. In the air travel market, too, barriers of competition exist. Some of these barriers have been set up and developed on purpose by individual airlines in order to limit competition to their individual advantage.

One of the inherent competitive barriers is the development of hub-and-spoke systems. While it does not appear that such systems were set up to limit competition on purpose, hub-and-spoke systems clearly do so in city-pairs which either originate or terminate at a hub-airport. Evidence is given by a study conducted by the General Accounting Office in June 1989. The study found that air fares were 27% higher at 15 concentrated airports than at 38 less concentrated airports (Travel Weekly, August 2, 1990). Since most of these airports are used by either one or two airlines as a hub, and their percentile amount of total departures is on a virtually monopolistic level, it follows that concentration as a barrier to competition is the primary reason for the empirically proven higher prices. For example, in 1986, Delta and American together held 87% of traffic in Dallas, while Salt Lake City was dominated 75% by Delta alone (Dempsey, 1989).

Another barrier to competition, which was set up by airlines deliberately to limit competition, is frequent flyer programs. By promising free flights after a certain amount of travelled milage, they focus consumers on one airline, thus making travellers more insensitive to competitive actions by rival airlines, and limiting competition.

Competition in the air travel market is also hindered by Computer Reservation Systems (CRS's), several of which are in use. Mostly, they were developed by large airlines, with several smaller airlines following as part of the network. SABRE, introduced by American Airlines as the first CRS in 1976, is the oldest and most widely used. CRS's are used by travel agencies to get necessary information about flights, as well as for booking. They pose a barrier to competition since they promote flights of the parent airline, while keeping flight options of competing airlines in the background.

A barrier to competition, which partially results from the existence of frequent flyer programs and CRS's, is barrier to entry. This is in contrast to the opinions of Crandall and Kahn, who argue that barriers of entry are low and that few economies of scale exist. But, realities in today's market show a totally different picture. First, 68% of airports offer no gates for new entrants (Dempsey, 1989). Four airports (Chicago-O'Hare, New York-JFK,

New York-LaGuardia, and Washington-National) are even operated on a slot system, requiring new entrants to buy landing rights from airlines who hold these slots. Second, as already mentioned, CRS's and frequent flyer programs represent an enormous disadvantage to newcomers in gaining equal opportunity in attracting customers. Third, economies of scale do exist. Airline economics presented in Chapter III show that small airlines cannot get on the same low-cost level as large airlines. Additionally, they are not in the position of offering the same quality of service concerning flight frequency and schedule convenience.

A final issue concerning the limitation of competition by barriers is closely related to the responsibility the government has in instituting a competitive environment. It is the bankruptcy legislation, known by the public as the famous 'Chapter 11'. It helps bankrupt carriers by protecting them from creditors with deferment provisions for outstanding debt, thus allowing them to continue operations, while restructuring and trying to evolve from bankruptcy.

This practice has been very controversial lately. Some, such as American's Chairman an President Robert L. Crandall, argue that the bankruptcy laws have worked badly in every industry, and "...by prolonging the life of failed carriers, have had a terribly adverse impact on both the creditors and competitors

of bankrupt airlines and the financial health of the airlines industry" (Crandall, 1992). This argument is supported by market observations, which show that it is mostly the bankrupt carriers that underprice other airlines, thus causing price-wars leading to revenues covering only short-term costs, and non-profitability in the long-run. However, this support of bankrupt carriers can also be interpreted as having a positive impact on the competitive environment. Since the level of competition increases with the number of carriers, support for airlines that otherwise would have exited the market would be a welcome move for the competitive environment.

Emergence of Market Power

Market power in the airline industry is the direct result of the market becoming more concentrated. With many airlines going bankrupt, or being taken over by a major airline, there are fewer competitors remaining in the market which, as time goes by, then become an oligopoly. The situation of decreased competition has put large airlines that hold the biggest competitive advantage in the position of exercising power, especially over pricing. This is shown at hub airports where the degree of concentration is clearly correlated to the price level. Since the dominant carrier or carriers were able to set the high price level, it can be assumed that they had

market power to some extent. Otherwise higher competition would have caused a lower price level.

The question of whether concentration in the airline industry, which is clearly happening, will lead to some airlines having high market power is widely discussed, and opinions differ widely. Crandall argues that "...as the number of carriers decreases, the remaining carriers add additional points to their networks and compete ever more ferociously in an ever-higher number of markets," thus indicating that market power cannot be achieved by individual airlines since competition would in fact increase, and not decrease (Crandall, 1992). However, it is also possible that the remaining, larger airlines would choose to search for individual market niches, rather than meeting competition head-on.

Proponents of the theory that competition will decrease with a more concentrated market remind us that the unique character of transportation has to be taken into account. Brenner mentions that in other industries, even in cases of oligopoly, local markets do not end up with a one-supplier monopoly. But, he sees that possibility in air transportation (Brenner, 1988). Dempsey reminds us that air transportation is not directly comparable to other industries, such as the soft drink industry, where Coca-Cola and Pepsi hold an oligopoly, while still having price competition (Dempsey, 1989).

CHAPTER VI :

AIRLINE PRICING POLICIES AND STRATEGIES

Bases for Airline Pricing

Generally, and in no contrast to other industries, airlines have several different options of how to formulate pricing. The first, and most obvious option, is, to make prices dependant on costs which have to be incurred in order to provide the service. Following that strategy when setting the price for a particular route, airlines would have to determine their costs of providing that service, and subsequently add a profit, thus arriving at the price which would be needed to be charged. Actually, cost-based pricing is the most healthy for both, producers and customers since it provides the producer with a decent profit, and the customer with a fairly priced product or service. It also contributes to high supply reliability since destructive forces in such markets are rare, and inherent balance contributes to advantageous stability.

Second, airlines can formulate prices relative to the degree of competition. Here, the objective of selling comes in the foreground which is tried to be achieved by offering a lower price than competitors. The objective of covering costs, as in case of cost-based pricing, still retains some importance but moves in the background. Especially in case of the airline industry, competition-based pricing is of inherent significance since the produced service of passenger air transportation is forever lost once airplanes take off. There

is nothing like stocking. Consequently, airlines are eager to fill seats as much as possible, and this is only possible by winning the competition against other airlines.

One very nasty form of competition-based pricing is predatory pricing. Airlines engaging in predatory pricing have the objective of ruining other airlines in the market. They mostly have considerable market power which they use to keep prices under profitability levels. The large, financially powerful airlines are able to survive such periods of losses, while the targeted, smaller airlines are not. Then, after competition has vanished, prices can be raised again, and losses from predatory pricing more than compensated in a market of lower competition. Today, there is much discussion if the 'Big Three', American, United, and Delta are involved in predatory pricing. For example, American's move in the Spring of 1992 to slash prices by 50% for summer travel, supports the argument that predatory pricing might have been involved since no profitability is possible on this price level.

Third, pricing can be made dependant on the price sensitivity of customers. In that case, airlines charge as much as customers are ready to pay. Since different groups of airline customers, such as leisure and business travellers, have different price sensitivities, a need for discrimination

arises. Consequently, airlines charge travellers different prices for the same service.

Competitive Pricing and Price Discrimination

When analyzing the current situation in the air travel market concerning pricing, it is impossible to find solely one pricing-base used to formulate prices. In fact, all three of them are used. The combination of cost-based, competition-based, and sensitivity-based pricing is used throughout the country, with some alternations in a couple of city sub-markets where, for example, competition is more intense, and thus competitive pricing needs to be more in the foreground than other pricing-bases. The composition of this currently quite complex pricing strategy will be analyzed in the following.

Foremost, competition-based pricing is of great dominance. This is both, logically understandable, and empirically shown in the market. For example, the highly competitive market out of Phoenix, due to the presence of no-frills carrier Southwest Airlines, shows significantly lower fares for routes of comparable distances than Cincinnati where competition is relatively low as a result of Delta's dominance. Logically, everything that has been said concerning airline economics and

the competitive environment of the air travel market supports an approach of emphasizing the filling of empty seats. And, since the current air travel market has an oversupply, this only can be accomplished by winning customers in a competition against other carriers.

The second pricing-base which is of an equal importance in the current air travel market as competition-based pricing, is sensitivity-based pricing. Its manifestation is in the discriminatory aspect of current airline pricing. This arises since the philosophy of sensitivity-based pricing is to aspire to have every passenger pay as much as possible which, economically seen, means to minimize the consumer's surplus, which is the difference between the consumer's readiness to pay under the most unfavorable circumstances and the current market circumstances.

The most obvious price discrimination in today's airline market is between leisure and business travellers since business travellers accept relatively high fares, while leisure travellers do not. For example, the price-tag of $1000 for a coast-to-coast flight would not attract very many leisure travellers, while only few business travellers regard that price as prohibitive. Consequently, airlines have created many 'filters' to separate business from leisure travellers in order to be able to charge them different,

customized fares. The most widely used are 7-day, or 14-day advance booking requirements, as well a required saturday overnight stay at the destination. These 'filters' separate most of the business travellers from leisure travellers since only few business travellers are in the position to fulfil these requirements. The strategy of the airlines then is to charge travellers fulfilling these requirements low fares, while offering travellers not fulfilling the requirements only high fares.

The airline's business strategy of discrimination based on a time-frame requiring advance booking of 7 or 14 days demands a quite sophisticated inventory management of future flights. Since high prices for airline seats will be achieved shortly before the actual flight by selling to those who were not able to plan well in advance, airlines need to retain capacity for these travellers. Today, this is done by computerized systems supporting inventory and yield management. These systems assist in dealing with the dilemma of leaving too much capacity for short-notice travellers against leaving too little space, and thus losing the high price customers.

Finally, besides competition-based and sensitivity-based pricing, there is still cost-based pricing playing a role in the complex airline pricing formulation. However, its part in airline pricing is only out of inherent reasons. For example,

cost-based influence dictates the frame in which competition-based and sensitivity-based pricing can be utilized. It is not $10 - $100 a coast-to-coast flight can cost, but more something like $200 - $2000, and these boundaries are set but costs. Airlines did not choose to have these boundaries. They were given by the inherent relationship between cost and price.

The situation in the current air travel market is very much a reflection of the earlier mentioned competition-based and sensitivity-based pricing. The strive to win competition against other airlines, and the strategy to have the traveller pay as much as possible, have led a plethora of uncountable fares. The Airline Tariff Publishing Company (ATP) estimated in 1991 that airlines during that year alone will have entered 78.5 million new fares (Travel Weekly, August 29, 1991, p.20).

Cross-Subsidization

Cross-subsidization is a pricing strategy already known from the time of regulation. While airlines enjoyed high profit margins on major routes (e.g. Los Angeles-New York) due to great demand and high ticket prices set by the CAB, they were supposed to use some of these profits to subsidize their service to small communities where they were losing money.

Demand for air travel on these routes was low, but it was regarded to be in the national interest to provide small communities with air transportation, and at a reasonable price.

After 1978, the situation virtually reversed: it is now the profits from service to selected minor markets, such as Madison, Wisconsin or Dubuque, Iowa, which offset losses in major markets. The reason for this situation lies in the changes of the regulatory and competitive environments since regulation. With the freedom to choose which cities to serve, airlines were able to select only these where profitable service was achievable. Additionally, low competition in minor markets enabled airlines to charge highly profitable ticket prices. For example, in 1987 the trip from Madison, Wisconsin to St.Louis, Missouri cost $225 one way, while a ticket from New York to Los Angeles via St.Louis was only $199 (Dempsey, 1989).

However, cross-subsidization actually does not always take place from minor markets to major markets, but rather from markets of low competition to markets of high competition. It is just a coincidence that minor markets are usually less competitive due to their small demand.

Hub-Pricing

As already mentioned, airports serving as an airline's hub tend to have a higher price level than non-hub airports. In chapter V, discussing the competitive environment of the airline business, this was traced to the limitation of competition as a result of high concentration and dominance by one or more airlines. These previous findings fit the analysis of this chapter, identifying competition-based pricing as one of the dominant bases of the complex airline pricing process.

The General Accounting Office found in 1988 that air fares were 27% higher at 15 airports where one or two airlines dominated than at 38 less concentrated airports (Travel Weekly, June 15, 1989, p.51). This fact was not denied by the Air Transport Association at all. With a report authored by a prestigious consulting firm they defended their pricing policies by arguing that the biggest single factor that leads to high fares is a high quality of service (Travel Weekly, June 15, 1989, p.51). This, however, also shows that the higher price level is not based on higher costs since no additional costs have to be incurred in order to provide the higher quality of service at a hub-airport.

Since a cost-based higher price level at hub-airports is out of question, it has to be assumed that competition-based pricing is utilized. It would be irrational if airlines would not adjust their pricing relative to the degree of competition at hub-airports, while they do at other, non-hub airports.

New Pricing Approaches

As a result of pricing strategies currently employed by airlines in the U.S. market, consumers have to deal with a very complex fare structure. When facing the need to travel, consumers often find themselves in a situation where they feel they do not have the buying situation under control. It is the classic experience of sitting next to somebody on the same airplane, and in the same class who paid only a fraction of the price paid by oneself that shies away people from flying. As a result, people sometimes prefer using other forms of travel or do not travel at all.

The consumer frustration with the complex fare structure that was perceived as both irrational and unfair (Crandall, 1992) has not been unnoticed by airline executives. In their struggle against each other, as well in their attempt to attract more passengers, they developed, and still are developing new pricing approaches. American Airlines, a

proven leader in the industry who previously pioneered frequent flyer programs and computer reservation systems (CRS's), introduced its 'Value Pricing' on April 9, 1992. This new pricing approach embodies only four different fares for the same flight and class of cabin, a significant reduction of the plethora of fares prior to 'Value Pricing', and aims at travellers who previously stayed away from air travel because of the perceived unfairness of fares.

Another attempt to change pricing in 1990 already failed during planning, when American Airlines and TWA tried to make prices dependent on the actual milage flown. Although the new fares would have meant only a small deviation from previous fares, the price increase for long-haul routes due to the high milage meant that the new plan was not doable. Major competitors such as Delta and United refused to go along. Consequently, American and TWA could not afford to raise prices for certain routes while the competition stayed on their existing price level, and gave up their plans.

CHAPTER VII :

SUMMARY AND CONCLUSIONS

Summary

It has been the intention of this paper to make the subject of price formulation by airlines more understandable by presenting and analyzing the driving forces behind it. An evolutionary development is taking place in the airline industry. Presently, the airline market is going through a deregulatory process which started in 1978, and, as Robert Crandall puts it (1992), "is still working its way through the industry". It is the painful process of transition from an inefficient industry, secured by government protection to an industry where every airline has to prove itself in the marketplace.

Beside this evolutionary development, the second major factor for airlines concerning pricing is the special economics they face. Variable costs of providing air travel service are relatively low, while in comparison fixed costs represent a very high percentage of total costs. A result of this special cost structure for pricing is that selling at long-term unprofitable price-levels still makes sense in the short-term. This is because realized prices in the market are significantly higher than variable costs, and airlines achieve a unit contribution and cover fixed costs.

As a result, when faced by fierce price competition in the market at prices below profitability level, airlines still choose to match market prices in order to attract travellers since small losses are stiller better than high losses. At times, depending on the situation in the air travel market, airlines go through long periods of sub-profitable price levels during which one of the main pricing policy objectives becomes 'damage control', and the orientation of pricing shifts from long-term to short-term.

The third factor of influence on airline pricing is the competitive characteristic of the air travel market which Crandall describes as "...intensely, vigorously, bitterly, savagely competitive" (Business Week, July 6, 1992). This is because it is in the market where airlines have to prevail against other airlines, and the price shows to be a primary means of getting a competitive advantage.

It has been found that airlines, faced by the major factors of influence mentioned, currently are employing three bases in formulating their pricing strategies. These are competition-based, cost-based, and sensitivity-based pricing, the last being an approach of taking advantage of different levels of price elasticity among airline passengers. None of these bases of pricing is used separately from the others. They

always are utilized in combination, with the weight distribution among them shifting.

Conclusions and Implications

Several important conclusions can be drawn from the findings of this paper. First, airlines have to accept disadvantageous, and, in most cases, abruptly changing price levels in the market as given and largely out of their individual control. Their focus has to be to achieve the best possible result out of a given situation, even if it is a loss. Currently, with many airlines struggling in bankruptcy, price levels are low and unprofitable. However, once oversupply is eliminated from the market, the remaining airlines can expect a stabilization of the air travel market. Consequently, airlines have to aim at coming out with the least damage from the current 'bad times' in order to be as fit as possible in future. A plausible approach, for example, might involve strict cost control, in the absence of influence over prices.

Second, and as a result of airline economics, pricing needs to be done primarily from a competitive point of view. Different pricing approaches, such as cost-based pricing, are desirable and potentially beneficial for the airline industry as a whole. However, individual airlines can only engage in different than competition-based pricing if every competing

airline follows suit, and thus no airline gains a competitive price advantage over another.

Third, airline pricing has to be made more simple as a reaction to customer frustration with a fare structure which is perceived as unfair and irrational. Airlines have to stop employing certain sensitivity-based pricing where disadvantages due to negative customer reaction outweigh achieved advantages. However, finding a good balance might prove to be rather difficult, and remains a major challenge for airlines.

Fourth, there is a need for responsibility for the health of the air travel industry as a whole by each individual airline. Since competitive considerations are of primary importance in the pricing formulation process, airlines have to develop an understanding that short-term advantages achieved by price-cutting almost instantly are matched and the new, lower price level will hurt the airline itself, as well as all other airlines in the market. With the development of a concern for the industry as a whole, individual airlines have to step away from short-term price-cutting, which leads to destructive competition and disadvantages for every airline in the market.

All three major factors of influence on airline pricing namely, history, airline economics, and competitive

considerations, have in common their close relationship to the market. This is not surprising since it was the objective of deregulation in 1978 to expose air transportation to the powers of the market, and thus provide the public with quality air transportation at significantly lower prices due to increased efficiency. Several implications are evident for regulatory and public policy bodies.

First, legislation has to allow the market forces to establish a balance between supply and demand, and to eliminate carriers which are not able to survive. The current situation in the market shows that struggling carriers do not enhance competition, but distract from the desired effect of competitive forces in the market, and jeopardize the financial health of the airline industry. Consequently, bankruptcy laws protecting bankrupt carriers should be reexamined since they prolong the presence of inefficient carriers in the market.

Second, the slot-system which limits equal access to the nation's most highly congested airports should be replaced. Instead a congestion-based takeoff and landing fees system should be brought into effect, as advocated by Morrison/Winston (1990) and Crandall (1992). The result would be an enhancement of competition since all carriers would have potential access for the price of a fee which would bring the same result as the slot-system.

Third, frequent flyer programs should be closely examined in their impact on competition, and, in case they are found to be limiting competition, they should be taxed. The additional costs for airlines for running a frequent flyer program would make airlines more reluctant to abuse frequent flyer programs as an instrument for diverting competition to their own advantage. The result would be increased competition which benefits both consumers and airlines.

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