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U.S. Airline Deregulation: Implications for Canada

Anthony P. Ellison

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TECHNICAL REPORT NO. 11

U.S. AIRLINE DEREGULATION: IMPLICATIONS FOR CANADA

by

Anthony P. Ellison

The findings of this Technical Report are the personal responsibility of the author, and, as such, have not been endorsed by members of the Economic Council of Canada.

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Table of Contents

List of Tables and Figure

Résumé

L'accès direct à l'industrie canadienne du transport aérien, de même que ses tarifs, sont soumis à une réglementation publique depuis plus de quatre décennies. À la fin des années 70, des modifications ont été appotées aux politiques et ont contribué à libéraliser certains aspects de cette réglementation. Ainsi, la concurrence directe a été autorisée sur les lignes transcontinentales. En outre, l'application de tarifs plus faibles, quoique souvent limités, a été permise. Aiguillonnés par la concurrence, les transporteurs ont offert une vaste gamme de services de différente qualité et de prix correspondants, de sorte que leur clientèle a augmenté. Toutefois, sur la plupart des autres itinéraires canadiens, les voyageurs n'ont pas été aussi favorisés. En effet, les choix possibles quant à la qualité des services et aux tarifs y sont beaucoup plus limités que sur les itinéraires transcontinentaux; la concurrence sur ces trajets demeure si restreinte que dans certains cas, un seul transporteur est autorisé.

Les États-Unis sont allés plus loin que le Canada et ont favorisé davantage la concurrence. En fait, l'industie du transport aérien y est déréglementée depuis 1979, par suite de l'adoption, en 1978, de l'Airline Deregulation Act. Les transporteurs ont réagi en abaissant leurs tarifs, en étendant la gamme des services et en offrant divers niveaux de qualité. Beaucoup de compagnies ont réaffecté leur matériel, adapté leurs itinéraires et modifié le nombre de places dans leurs avions. Il en est résulté un accroissement de productivité qui a favorisé une baisse marquée des tarifs réels et contribué à contenir les augmentations de coûts consécutives à la hausse des prix du pétrole en 1979. Les changements les plus importants se sont produits sur les itinéraires courts et à forte densité, par suite de l'arrivée de nouvelles compagnies concurrentielles offrant des tarifs réduits et un genre de service plus "dépouillé".

Il semble qu'aux États-Unis, le degré de concentration de l'industrie soit en baisse. Sur beaucoup de lignes, la concurrence a été intense, mais non destructrice. Le départ et le remplacement de

transporteurs sur les itinéraires de courte durée et à faible densité s'est fait sans heurt. Le montant des subventions versées pour aider les divers services a été plutôt faible, ce qui confirme qu'il existe des compagnies pouvant rentabiliser ces lignes.

À en juger par ses effets aux États-Unis, la déréglementation devrait produire, au Canada, une hausse semblable des profits nets. Sur un grand nombre d'itinéraires, notamment les vols à forte densité et de courte durée, les passagers peuvent s'attendre à ce que, grâce à la déréglementation, un plus grand choix de prix et de niveaux de qualité des services leur soit offert. La régulation qui sera assurée par le libre jeu des forces du marché contribuera à un accroissement de l'efficacité. Le matériel pourra aussi être mieux employé. L'accès de nouveaux transporteurs sur le marché et la menace d'en voir venir d'autres permettront de mieux faire concorder les tarifs avec les coûts d'exploitation.

Néanmoins, la hausse du prix des carburants et la concurrence toujours grandissante des autres formes de communication représentent des défis pour les compagnies aériennes canadiennes. Une industrie canadienne du transport aérien déréglementée et concurrentielle sera le meilleur moyen de relever ces défis.

Summary

For over four decades the Canadian airline industry has been subject to direct entry and fare regulation. At the end of the 1970's policy changes occurred which liberalized aspects of this regulation. Head-to-head competition was allowed on the transcontinental routes. Lower, but often restricted fares, were permitted. Passengers have been offered a wide range of service quality and fares by the competing carriers, and they have responded by increasing their patronage. Passengers over most of Canada's other routes have not been so fortunate. The range of service quality and fares offered the pasenger are much more restricted than those on the transcontinental routes, for competition on these routes remains restricted -- on some only one carrier is permitted to operate.

The United States have gone further than Canada in encouraging competition. The passage of the Airline Deregulation Act in 1978 has resulted in an industry which has, in effect, been deregulated since 1979. Carriers have responded by offering lower levels of fares, wider fare structures and varied qualities of service. Many carriers reallocated their equipment, adjusted their route structures and changed the seating densities of their aircraft. The resulting increases in productivity facilitated a marked drop in real fares and the containment of cost increases following the rise in fuel prices in 1979. The most marked changes have occurred on the short-haul, densely travelled routes, where new, competitive carriers have entered, offering low fares and "no-frills" service.

The evidence from the U.S. is that the industry is becoming less concentrated. Competition on many routes has been intense, but there is no evidence of destructive competition. The exit and replacement of carriers on short-level, sparsely travelled routes, has been smoothly executed. The subsidies spent to support services have been small, confirming that there are carriers able to profitably operate these routes.

The results of the U.S. deregulation suggest a deregulated Canadian industry will produce similar increases in net benefits. Passengers on a large number of routes, and particularly those on the dense, short-haul routes, can expect that with deregulation they will be offered a wider choice of fares and quality of service. Regulation by market forces will lead to gains in efficiency. Equipment will be applied to routes to which they are appropriate. The actual entry of carriers and the threat of entry will serve to bring fares into line with costs of production.

The rise in fuel prices and the ever increasing competition from other forms of communication present challenges to Canada's airlines. A deregulated, competitive airline industry is one which will best be able to meet these challenges.

Introduction

In 1978 the U.S. airline industry, which for forty years had been subject to regulation by the Civil Aeronautics Board, became subject to the Airline Deregulation Act. Since early 1979, the U.S. domestic passengers' airline industry[1] has, in effect, been deregulated. These changes were of interest to Canadian transport policy makers, not only because of the direct effects these changes had on Canada's transborder and international air routes, but also because a more liberal policy had been introduced on transcontinental air routes in Canada and an extension of this policy was a considered alternative.

The Regulation Reference of the Economic Council of Canada, as part of its research programme into transportation regulation, undertook to examine the U.S. deregulatory experience, with the objective of determining "whether, having regard for the structure of the industry and regulatory environment in Canada, that experience would be a useful model for regulatory reform in Canada."[2] The study is complemented by other research work. Professor William A. Jordan of York University is undertaking a study, entitled "Performance of Regulated Canadian Airlines in Domestic and Transborder Operations," which will assess the performance of Canadian airlines. There is also research being conducted jointly by Transport Canada, the Department of Consumer and Corporate Affairs and the Canadian Transport Commission. The studies embrace international airlines, for-hire trucking, inter-city bus, rail freight, maritime transport and the domestic air carrier airline industry. The purpose of all of the studies is to "determine whether economic regulation and competition in each of the industries being examined has effectively promoted efficiency of operation, as well as other objectives of government policy and to estimate the implications of possible steps to alter economic regulation and increase competition."[3]

This interdepartmental working group has presented a draft discussion, entitled, Economic Regulation and Competition in the Domestic Air Carrier Industry, (Ottawa, February 1981). This is an extensive study, drawing in part upon work conducted by the Canadian Transport Commission, which surveys the behaviour and performance of the Canadian carriers under regulation. The detail contained in that study has helped to place the emphasis in this study. Instead of reproducing details of the structure and behaviour of the Canadian industry, the study has concentrated on outlining recent changes in Canadian domestic air transport policy, comparing these changes with those in the U.S., as well as outlining the structural differences between the two industries. The detailed analysis has been reserved for the sections on the U.S. deregulation and its impact on the behaviour and performance of the carriers. In general, however, much of the detail has been kept to a minimum, and when it does occur, it has been packaged into footnotes and exiled to the back of the respective chapters.

The behaviour of the U.S. carriers has come under scrutiny since 1978. Every change in fares, rumors of mergers, statements of profit and loss and the entry of new carriers have been interpreted in widely different ways. Chasing these changes has been made easier by consulting with a series of staff studies produced by the CAB, entitled Report on Airline Service, Fares, Traffic, Load Factors and Market Shares. The reader interested in updating the deregulation experiment will do well by consulting this series.

The study consists of five chapters, the first one of which introduces the relevance of the U.S. deregulatory experience to Canadian air transport policy-makers. Later parts of the chapter explore the difference in regulatory histories and structural differences between the two industries. Chapter 2 describes the process of liberalization and then the deregulation which the U.S. airline industry underwent, while Chapter 3 describes the changes in Canadian regulatory policies over the same period. Chapter 4 is a detailed account of the response and the performance of U.S. carriers under deregulation, while Chapter 5 briefly presents an outline of the lessons of the U.S. deregulation experience and concludes with a set of recommendations.

Notes

1. In 1977 the domestic air cargo industry was deregulated.

2. Regulation Reference: A Preliminary Report to First Ministers, Syliva Ostry, Chairman, Economic Council of Canada, November 1978, pp. 37-8.

3. Economic Regulation and Competition in the Domestic Air Carrier Industry, A Discussion Paper prepared for the Interdepartmental Committee on Competition and Regulation in Transportation, Ottawa, February 1981, draft discussion paper, p. i.

Chapter 1

The Relevance of the U.S. Experience

1.1 Introduction

In almost all countries, the economic aspects of the airline industry are regulated by the national government. Much regulation was introduced when the industry was in its formative years and it was designed to both protect and to promote this new form of transportation. Regulation, it was argued, was necessary to ensure the appropriate level of service at "fair" rates. Some believed the industry was subject to considerable economies of scale, such that most routes would be able to support only one or at best a very few carriers. Some believed that the entire industry could support only a few carriers. Others felt that open competition would be "destructive" and would fail to provide a large network of reliable air services.

In Canada there has been in operation an elaborate system of regulatory controls of entry, exit, fare levels, mergers, acquisitions, safety of operations and types of services offered for even the smallest carriers. In addition, both federal and provincial governments have paid direct subsidies to certain air carriers to provide specific services desired by the legislature. One of the primary instruments of government intervention has been government ownership, notably of the nation's largest airline, Air Canada. For the first four decades of its existence, federal control over Air Canada went beyond "mere ownership" in that the airline's routes and level of service structure were largely determined by the terms of a series of contracts between the carrier and the federal government. Air Canada was a "chosen instrument" of public policy for the development of the air transportation system of a large nation with few people.

In the past five years or so both Canada and the United States have undertaken important changes in the nature of the economic regulation of their airline industry. Canada has significantly reduced the restrictiveness of its regulatory and policy constraints on a number of fronts. Of particular importance has been the emergence of price-regulated but otherwise unrestricted competition between Air Canada and CP Air on the Montreal/Toronto-Vancouver transcontinental routes. The competition on the transcontinental routes and on the charter markets between both scheduled and charter carriers has indicated the increasing possibilities of choices between qualities of services and prices for the passenger and raised questions about the efficacy, efficiency and relevance of the present economic regulation of the industry benefiting both carriers and air travellers.

The United States has gone even further than Canada in encouraging competition among air carriers. The Airline Deregulation Act of 1978 will result in the removal of the direct regulation on fares and carrier entry by 1983. The central question facing Canadian policy makers is whether Canada should follow the U.S. lead and extend the process of liberalization by deregulating the industry over the next few years.

This question brings forth the issue of whether the U.S. deregulatory experience is relevant to understanding the consequences of deregulating the Canadian industry. Section 1.3 explores this issue while Section 1.4 provides a brief summary of the differences in the structures of the two industries. Detailed description of the authority and recent policies of the regulatory bodies in the two countries is left to Chapters II and III. The next Section, 1.2, examines the rationales used in both countries to regulate the industries.

1.2 The Rationale for Regulation

The airlines in Canada and the U.S. have been subject to direct regulation, in which the fares charged, the entry and the exit of carriers and in some instances the rate of return earned have been regulated. A number of reasons have been given to support the use of these regulations.[1] Locklin[2] provides a summary of some of these main reasons by pointing out the undesirable consequence of unregulated competition:

> "[I]t by no means follows that unrestricted competition would produce desirable results. If overcapacity developed, as would be quite likely, the temptation to out-of-pocket-cost rate making would appear, and even if it did not, earnings would likely be depressed below a remunerative level. Competition would soon give way to some form of monopolistic control.
>
> Another factor which should be considered is the possible effect of unrestricted freedom of entry on safety standards. The high degree of hazard in the air-transport industry makes it imperative that competitive pressures and the resulting struggle for survival do not lead to inadequate safety measures. This is a matter which cannot be controlled entirely through strict safety regulations imposed by public authority.
>
> One other probable result of unrestricted entry should be recognized before a decision is made to abandon present regulatory controls. It would substantially change the airline pattern in the United States. More competitive services would doubtless be available between important traffic centers; but air service at smaller cities, and on some routes, would disappear. The carrier would be under no obligation to provide service to cities that enplaned or deplaned little traffic. In fact, if traffic between the major cities was spread too thin among competing carriers, the airlines could not afford to provide service at the smaller communities."[3]

According to this rationale, the unregulated air transport market exhibits three failures. First, that if left unregulated, the market in air services has a tendency to be destructive. Second, it is argued by some that an unregulated market will lead to the emergence of a monopoly or a number of local monopolies. Third, that there is a failure of information in the provision of services by an unregulated market.

It was argued that the information concerning the safety and reliability of an air service was difficult and expensive for the passenger to acquire. Evaluation of the competence of the pilot, and the reliability of the aircraft, involved understanding complex technical information. It would be very costly, or difficult, for passengers to acquire the sophistication needed to evaluate and understand the information. Alternatively, the reliable and safe carriers would prosper in an unregulated market, for passengers would cease to patronize carriers prone to crash. But the resulting deaths and injuries as a consequence of the market working itself out would be considered too high a price to pay. Hence, it was argued, it would be more appropriate to licence producers and to establish and enforce standards.

A natural monopoly exists in an industry when the cost per unit output of one firm falls until the efficient size of the operator fills all - or most - of the market. Competition cannot be relied upon to assure efficiency, for only one firm can be supported at an efficient scale. Indeed, competition may be destructive, and consequently wasteful and inconvenient to the customer. The resulting interruptions in service would deny the passenger the important requirement of regularity of service.

A natural monopolist is characterized by declining average costs, in which marginal costs will be below average cost. Competition will result in price being driven down to marginal cost, and consequently all competitors will lose money. This will continue until only one airline will remain. The competitive process will have resulted in rate wars, bankruptcies, and interrupted service.

Allowing competition against a natural monopolist may also lead to undesirable consequences because the monopolist may be unable to sustain its position in the face of selected competition.[4] Despite its monopoly power and the possibility of charging discriminatory prices, it may be unable to establish prices which preclude profitable opportunities for competitors to enter and to "skim the cream." For instance, the demand curve in the market may intersect the monopolist's average cost curve beyond its minimum point. It could be that the prices established by the monopolist to serve all demand could be undercut by a cream-skimmer able to operate at minimum average cost because it is not required to provide year-round, regular service. As a result, it is possible that a repeated, disorderly process of price-cutting, re-entry and then exit could ensue, leading to undesirable interruptions in service.

Another argument, distinct from that which is based on the notion that there are natural monopolies, has been advanced as to why unregulated markets in air services will lead to destructive competition. It is based on the observation that the industry is subject to high variability in the demand for its services and that the cost structures of carriers are characterized by high fixed to variable costs. Under such conditions, excess capacity could be created as a result of a sharp contraction in demand. Fares would fall below average cost, causing losses and interruptions of services as carriers went out of business. During the ensuing price-cutting, the possibility of carriers reducing their safety standards in order to lower their costs increases. These undesirable outcomes will persist if capital and labour are immobile and unable to move out and reduce the excess capacity in the markets.

The application of direct regulation and public ownership were also advocated on the grounds that an unregulated, private market would fail to produce the outputs that society wanted. For air services have been seen as commodities which governments, acting on behalf of society, have considered useful in achieving general social objectives. An extensive airline network, from "coast to coast," has been seen as one means of unifying the country. An extensive air transport system has also been seen to have strategic potential, for its airports, navigational infrastructure and trained personnel could be used in achieving military objectives. Governments have also desired to secure the provision of air services to places which could not be supplied on a commercial basis. The desire, it would seem, was to secure for those residing in remote communities a minimum level of access to the rest of the country. In some cases this meant providing access to services, such as hospital care, which were not provided in the remote communities.

If the goal of national unity is seen to be most efficiently achieved by a single carrier with a national network, then of interest is whether such a carrier would emerge from the unregulated market. If it is not expected to emerge, then it is argued that the development of a larger - or a different - system should be encouraged.

"Social" or "essential" services, it was considered, would not be produced by private carriers unless they were provided with subsidies. They could be given directly by the government in return for the provision of the services. The funds would pass through the public budget, and the government would be able to closely relate the extent of the subsidy and the cost and form of the services. Alternatively, by restricting competition on certain routes, profits could be raised and used to subsidize the unprofitable services. The passengers on the remunerative routes would be being taxed to pay for the services used by those on the unremunerative, social routes. The subsidies would not, however, pass through the public budget. Furthermore, this system of internal subsidy ties the level of one kind of expenditure - subsidies to unremunerative flying - to the yield from one source of revenue - profits from remunerative activities. In this case the regulation of competition in order to facilitate internal cross-subsidization is seen as a means of effecting the distribution of income.

The direct regulation of entry into and exit from the airline industry and of the level and structure of fares are envisaged as means of producing outputs and fares which will be desirable and which would not have been produced by the unregulated and inherently flawed market. Where the industry is seen to consist of natural monopolists, competition is seen to lead to instability and inefficiency. An unregulated monopoly, however, could result in high and discriminatory fares. An appropriate regulatory approach is seen to be to allow one carrier to take over the market by excluding other competitors, and then to apply fare regulation so that fares will be lower and output greater than under an unregulated monopoly. The regulation of entry, exit and price competition have also been envisaged as a means of preventing destructive competition. The regulation of entry and exit could be used to prevent persistent excess capacity and the regulation of price competition to prevent price wars. The application of the regulations is expected to lead to reductions in the fluctuations of prices, supply and in the losses of the carriers.

1.3 The Revelance of the U.S. Deregulatory Experience

The relevance of the performance of the U.S. industry under deregulation to Canadian air transport policy is derived in part from the similarity of the predictions concerning the behaviour of the two industries under deregulation. The U.S. experience presents an opportunity to "test" these predictions, while comparisons of the structure and the regulatory systems of the two countries provides a means of qualifying the predicted response of the Canadian industry if it were to be faced with a similar deregulation.

Both industries saw the introduction of substantial direct regulation in 1938. In Canada, the Transport Act was passed. It gave economic control over the industry to the Board of Transport Commissioners (BTC). As with the Civil Aeronautics Authority -- known after 1940 as the Civil Aeronautics Board (CAB) -- which was established by the Civil Aeronautics Act of 1938[5], the BTC was authorized to license routes on the basis of "public convenience and necessity," and was given control over rates. Both the BTC and the CAB granted licenses according to the doctrine of "grandfathers rights."[6] There were differences, however, in the apparent reasons for the regulation, in the instruments used and in the policies pursued.

Canada, unlike the U.S., which by the late thirties had a number of airlines providing transcontinental or mainline services, was without transcontinental services. As a result, the government in 1937 established Trans-Canada Airlines (known as Air Canada since 1964).[7] It was a subsidiary of Canadian National Railways, and was established to operate a transcontinental air system. A policy was pursued whereby all other carriers were precluded from developing east-west mainline services. Instead they concentrated largely on north-south operations. The largest of these privately owned carriers was Canadian Pacific Airlines (CPAL), a subsidiary of Canadian Pacific Railroad. It was formed in 1942 with the merging of Canadian Airways, a large carrier, with a number of smaller ones.[8] By the mid-1940's the "mixed" Canadian scheduled airline industry consisted of the publically owned Trans-Canada Airlines, a large privately owned airline, C.P.A.L., and eight small carriers, each serving their own region.

The regulation of the U.S. Airline industry, it would appear, was due to a desire to promote and protect what was perceived to be an "infant industry."[9] In the U.S., unlike Canada, the airlines serving mainline points were in place in 1938. Although over the next forty years they were to be protected from new, competing carriers, over time these trunk carriers, as they were called, were allowed to engage in nonprice competition. In Canada Trans-Canada Airlines had almost[10] a monopoly on mainline routes. It was only in 1958, that CPAL obtained the right to fly once daily between Vancouver, Toronto and Montreal.

The regulatory system in the U.S. remained largely unchanged for forty years.[11] In contrast, in Canada in 1944 amendments were made to the Aeronautics Act, from which a three-member Air Transport Board (ATB) was created, replacing the BTC. The Minister of Transport, however, had the right of approval over the ATB licencing decisions, while the Governor in Council had the right of approval over rates and tariffs. In 1967 a further change occurred with the passing of the National Transportation Act, which established the Canadian Transport Commission (CTC), into which was merged the ATC.

Despite their different structures and regulatory histories, both industries have been subject to similar entry, exit, and fare regulations, and not surprisingly, observers of the two industries offered similarly conflicting predictions of the behaviour of the two industries under deregulation. One group of observers suggested the regulation of entry and fare competition in both countries served to keep fares on many routes in excess of the level they would have attained had such regulations not existed. It was predicted that deregulation would result in a lowering in the level of fares and a widening in the choice of fares and quality of services on many routes.[12] The industries were considered to be structurally and workably competitive and so the changes were predicted to take place without the process of destructive competition or the emergence of a monopoly carrier.

Conflicting with these predictions were those which suggested deregulation would unleash destructive competition.[13] Competing carriers, so the predictions went, would lower their fares below variable costs, bankruptcies would ensue and the passenger would face disruptions in service. The industry to emerge from the destruction was predicted, by some, to be a monopolized one, in which the potential for higher fares would exist.[14]

Other observers concentrated their attention on the effects of deregulation on the provisions of services. They considered that regulation served to allow carriers to subsidize their less travelled routes by providing them with protection from competition on their denser routes. Deregulation, it was predicted, would remove the protection, lower the returns and the source of the subsidies, causing the carriers to stop serving their unrenunerative routes.[15] It was predicted that this disruption would last until direct subsidies were made available, for carriers would not find it profitable to operate such routes. Such an outcome, however, was challenged by those who considered the industry to be workably competitive. They contended that deregulation would lead to a realignment of equipment and carriers to routes without substantial disruptions in service. The exiting carriers would be replaced by new entrants, many of whom would be able to profitably operate the lighter travelled routes by deploying smaller aircraft.[16]

The introduction, in October 1978, of a phased deregulation of the U.S. industry, presents an opportunity to test these predictions. It is important, however, to be aware of the limitations of this exercise. The U.S. airline industry is in the third year of its phased deregulation -- it is still within the "short-run." The ADA was passed in a year when the carriers were actively engaged in replacing their aging (narrow-bodied) and noisy jet fleets. It was also a year in which disposable income grew and in which instability in Iran resulted in the most substantial oil price increases since 1974. Demand for air travel was strong, there were long waiting times for new aircraft and high prices for used aircraft. In contrast, in 1980 and in early 1981 the growth in disposable income fell and unemployment rose. The slowdown in the economy and the sharp rise in oil prices acted to push up costs, fares and to reduce demand.

These sharp changes in income, employment and oil prices indicate the importance of largely unpredictable exogenous changes on the performance of an industry which produces perishable services and which is characterized by high income and price elasticities of demand. Furthermore, the behaviour of the U.S. carriers cannot be assumed to be replicated by Canadian carriers when faced with a similar deregulation, for they have been subject to different regulatory policies and have operated in different markets, which in turn have effected the structure of the industry. The differences between the regulatory policies and the structures of the industries raises questions as to whether they can be expected to result in different performances. These questions are explored in the next section.

1.4 Comparisons of the Structure and Regulation of the U.S. and Canadian Airline Industries

Both industries have access to the same technology, equipment and trained personnel, but the structure of the industries differ considerably. They largely reflect differences in markets and in regulatory policies. Differences in markets in turn indicate variations in the distributions of population and economic activity.

The thin line of population that runs across Canada, paralleling the U.S. border, has had several distinctive effects on its air transport system. First, the movement east and west across the country has created a largely linear network,[17] in contrast to the number of hub-and-spoke networks that prevail in the more densely and evenly populated United States. Second, there is a substantial movement of traffic north-south across the border between the major centres of the two countris. Third, the northern regions of Canada are both remote and thinly populated. Unlike most centres in mainland United Stats, some of the northern settlements depend exclusively on air travel, since there is no effective alternative for most of the year.

In both Canada and the U.S. the regulatory bodies have acted to restrict the entry of airlines into the industry, to regulate fares and have permitted mergers as a means of facilitating the exit of carriers and consolidation of the industry. There are, however, differences in the powers of the two jurisdictions and in the instruments of regulation they have deployed.

The jurisdictions of the CTC and the CAB differ in that the former has the power to regulate intraprovincial as well as interprovincial air transport. The CAB has not had jurisdiction over intrastate air transport. The CAB, however, has had relatively more independence from the other branches of the U.S. federal government. The decisions of the CTC, on the other hand, are subject to appeals to the Governor in Council or the Minister of Transport. The Secretary of Transportation has no power to hear appeals from decisions of the CAB. The President, however, has the final approval over decisions of the CAB as they concern international routes and fares.

There are two major differences between the regulatory instruments employed in the two countries. In Canada, the federal government has employed publicly owned Air Canada as a "chosen instrument" of public policy. There is no equivalent to Air Canada in the American system.[18] Secondly, the CTC has had the power to directly regulate the nature and frequency of service on each scheduled route. The CAB has primarily influenced the quality of service by regulating the fare level and letting competition between the carriers affect the level of service quality.[19]

1.5 Comparisons of Carriers, Markets and Concentration

In the U.S., the trunks are the largest airlines, serving high density, non-subsidized routes in both domestic and international markets.

They accounted in 1978 for the overwhelming majority of both passenger-miles and revenues.[20] The CAB also exercised control over the local carriers,[21] whose original role was to serve smaller cities and towns and to act as feeders to the trunk system. They had the right to federal subsidies, which were distributed by the CAB. Similar in function to the local service carrier were the Alaskan and Hawaiian carriers, who also received federal subsidies for serving the two non-contiguous States. The CAB also regulated cargo and charter (supplemental) carriers, although neither of these carrier types were allowed to provide scheduled passenger services. The CAB, however, did not regulate two domestic carrier groups: intrastate and commuter carriers. Of the intrastate carriers, those operating in the large states of Texas and California were of interest, for unlike all carriers on interstate routes, they operated largely freely of direct regulation. The commuter carriers are providers of services (both scheduled and taxi) over short-haul routes with aircraft, limited until 1978, to capacities of under 30 passengers and 7,500 pounds net take-off weight. The CAB had the power to regulate these carriers, but chose to grant them an exemption.[22]

Three types of carriers have been involved in the development of the structure of the Canadian Airline industry: the national airlines (Air Canada and CP Air), the regional airlines (Eastern Provincial Airlines, Nordair, Quebecair, Trans Air and Pacific Western Airlines[23]) and local service airlines, such as Great Lake Airlines and Time Air. There are also a number of specialized charter carriers, of which the largest is Wardair. Except for a short period, the CTC has exercised detailed economic regulation over all carriers, including the "bush" airlines.

A comparison of the industries indicates two striking differences: the greater concentration of domestic scheduled traffic among fewer carriers in Canada and the relatively greater size and concentration within the local service sector in Canada.

In 1978, Air Canada accounted for over 40 per cent of the Canadian market -- a proportion twice as high as that of the largest U.S. carrier (see Table 1.1). Unlike any U.S. carrier, Air Canada is a truly national airline, providing service on transcontinental and on short-haul routes, with both high- and low-density traffic. The more evenly distributed population in the U.S. can perhaps be expected to produce more carriers and a less concentrated market. The favoured, and protected position of Air Canada, however, is also responsible for its very large share of the domestic scheduled market. The difference in the size of the two national markets, is shown, however, in the fact that if ranked against the U.S. trunk carriers, using revenue passenger airlines flown in 1978 as the measure, Air Canada would have ranked as eighth in the U.S. CP Air would have been in thirteenth place.[24] The regional carriers in Canada are much smaller than their approximate counterparts, the U.S. local carriers. Only PWA, the largest regional airline, carried more revenue ton miles during the period 1975-78 than Southern, which was then the smallest of the U.S. local service carriers.[25] The Canadian regionals also, on average, carry a higher proportion of charter passengers than do the U.S. locals.

In comparison with U.S. carriers, Canadian airlines carry a higher proportion of international traffic. In 1978 just under half of Air Canada's traffic was on international routes.[26] Taking all 7 mainline regional carriers together over the period 1975-78, domestic operations accounted for only 47 per cent of total revenue ton miles. Transborder traffic was 15 per cent and international 38 per cent of the total. These market shares reflect, in part, the closeness of Canada's links with the large U.S. and European markets and the size of the market in winter for vacations in warmer climates. They also reflect that carriers in the U.S., unlike Canada, became designated under the regulatory system as either primarily domestic or international carriers. Until the passing of the ADA, the international carriers in the U.S., such as Pan Am, were denied domestic pick-up rights.

With the exception of the period from July 1958 to November 1963, when open entry into Class 4C charter service and into all types of Class 7 specialty services was permitted, the local carriers -- the equivalent of the U.S. commuter carriers -- have been regulated in Canada. This group of carriers, ranging from Level III to Level V, is a heterogeneous

Table 1.1

Concentration in the U.S. and Canadian Airline Industries, 1978

	U.S.	Canada	
Market Share[1] of	Domestic[2]	All Market[4]	Domestic[3]
Largest airline	19.4	49.4	42.4
2 largest	33.2	66.7	57.2
3 largest	45.4	68.7	61.9
4 largest	56.8	71.2	64.5

1. Shares of operating revenue.
2. Operating revenues before subsidy. These terms include transborder traffic and exclude intrastate traffic.
3. Total domestic schedule and charter revenue for all classes of service.
4. Total domestic and international (including transborder) both unit-toll and charter.

Sources: Statistics Canada, Air Carrier Financial Statements, 1978, Catalogue No. 51-206, Annual (Ottawa: Information Canada). Carleton, D.W., W.M. Landes and R.A. Posner (1980) "Benefits and Costs of Airline Mergers: A Case Study," The Bell Journal of Economics, Vol. II, No. 1, Spring 1980, Table 3, p. 76.

one, providing a wide range and mix of services (see Table 1.2 for. definitions). At one end are those carriers providing unit-toll services in the form of commuter services to the larger metropolitan areas and feeder services into the national networks. At the other end are those which exclusively provide charter services for such activities as resource exploration and recreatinal fishing.

Statistical comparisons between the Canadian local service carriers and the commuter carriers are difficult, owing to the heterogeneous services produced by the Canadian carriers. Level III carriers, as local carriers are defined for statistical purposes, are perhaps the closest to the U.S. commuter carriers, although they also have a high proportion of charter business. Table 1.2 presents the comparisons of the two countries with Canada being divided up into Level III carriers and Level III, IV and V. Comparing Level III with the U.S. commuter carriers shows that on average the carriers carry fewer passengers but they carry them for longer distances, as shown by the higher number of revenue passenger miles that are flown. What is most marked is the share of the domestic market accounted for by small carriers. The number of passengers enplaned (unit-toll and charter) on Level III carriers accounted for over 13 per cent of the total unit-toll market in 1977.[27] In the United States commuter carriers accounted for only 3.5 per cent of the domestic scheduled market. In terms of the average annual amount of cargo carried per carrier, the Canadian carriers transported twice the weight of the U.S. commuters.

The Canadian Level III sector is more highly concentrated than the U.S. commuter sector. In 1977 the largest six carriers accounted for over 63 per cent of the unit-toll passengers carried by all Level III carriers. In the U.S. the top six commuter carriers accounted for just under 30 per cent of the passengers carried. In 1977 Great Lakes would have ranked seventh amoung the commuter carriers in the U.S. in terms of enplaned passengers. Air west would have ranked thirteenth and Time Air twentieth.[28]

1.6 Comparisons of Regulation

The more interventionist approach of the Canadian government is shown in its ownership of Air Canada and in the selection of carriers in each of

Table 1-2

COMPARISON OF CANADIAN LEVELS III, IV, AND V[1] AND AMERICAN COMMUTER AIRLINES[2], 1977

	CANADA		U.S.
	Level III	Level III, IV & V	
Number of Carriers	75	669	242
Number of Passengers Enplaned (million)	2.5	3.4	8.5
Percentage of Total Scheduled Market[3]	13.2	18.2	3.5
Domestic Revenue Passenger Miles (million)[4]	2,243	2,268	946.2
Percentage of Total Scheduled Market[3]	13.1	13.2	0.5
Average Annual No. of Enplaned Passengers per Year	33,232	5,131	35,147
Cargo (lbs. '000)	176,444.5[5]	254,522.4[5]	271,241.5
Average Annual Amount of Cargo per Year (lbs. '000)	2,353	380	1,120.8

Notes:

1. Level III carriers - all carriers which are not in Level I or II and which in the two previous years reported revenues of more than $500,000 from unit toll, charter and contract services, or revenues of more than $150,000 from unit toll services.

   Level IV carriers - all air carriers which are not in Levels I, II, or III, and which in the two previous years, reported annual gross flying revenues of at least $150,000.

   Level V carriers - all air carriers which in the previous year reported revenues of less than $150,000.

2. A distinction is made in the United States between "local service carriers" and "commuter" airlines, the latter being the much smaller of the two. The comparable grouping in Canada is probably the Level III, but with possible overlap in Levels IV and V.

3. Canadian data: Unit toll statistics used for the denominator, and includes the international market. Data for the domestic market not available.

   U.S. data: If domestic scheduled market only is used, 3.8% of passengers enplaned and 0.6% of revenue passenger miles is accounted for by commuter airlines.

4. Assuming Levels III, IV, and V are mainly domestic operations.

5. Cargo - Total freight and express carried. Cargo does not include mail or excess baggage.

Sources: Commuter Airline Association of America (1978) Commuter Airline Industry, 1978, Annual Report November (Washington: Commuter Airline Assocation of America).

Statistics Canada (1977) Air Carrier Operations in Canada, Oct.-Dec. 1977, Catalogue No. 51-002 (Ottawa: Information Canada).

five regions as vehicles for developing air travel to smaller centres. In general, all carriers have had some protection from competitors under the CTC's policy of restricting entry into the industry. The CTC has also exercised its power to set the maximum frequency of service on a route, the type of aircraft to be operated, and the type of traffic to be carried.[29] In contrast to the CAB, however, the CTC has exercised a less detailed control over fare structures.

In Canada close to 80 per cent of all routes with traffic in excess of 70,000 trips per year, and 39 per cent of those with between 10,000 and 70,000 trips were served by more than one carrier in 1979.[30] Yet there were few markets in which more than one carrier had unrestricted authority to determine flight frequencies or fares. There were only twenty-two city pairs in 1977 where more than one carrier had such unrestricted authority, representing only 13 per cent of all routes with more than 10,000 trips annually.[31] On the very high-volume, short-haul routes with over 200,000 trips, carriers were subjected to operating restrictions. In contrast, no such restrictions were imposed on the sole carriers plying long-haul routes of over 2,000 kilometres with over 10,000 trips.[32]

The evidence suggests that, with the exception of the transcontinental routes, where restrictions on competition between carriers have been relaxed, there is very little head-to-head, unrestrictd competition in Canada's domestic airline system. Air Canada remained the dominant carrier and price leader, operating in all but eight of the fifty largest markets.[33] Where it runs scheduled services alongside the regionals, it has not encroached on their designated territory by engaging in intensive competition. In many cases it has entered undisclosed agreements to restrict flight frequency or relinquished its right to service the routes and left the traffic to the local or regional carrier.[34] Such actions, which do not appear to have been challenged by the CTC, are facilitated when the smaller carriers use the dominant carriers's reservation system.[35] In addition, licencing policies have preserved a number of fairly high-volume markets for the regionals, such as the Montreal-La Grande route for Nordair, the routes from Vancouver to the interior of British Columbia for Pacific Western Airlines, and the Montreal/Bagotville route for Quebecair.

In contrast, the regulatory system in the United States has tranditionally led to more extensive and intensive rivalry between carriers. Although no new entrants into the trunk route sector were allowed over the forty years of the CAB's operation under the Civil Aeronautics Act of 1938, there was direct, head-to-head competition on existing routes. The Board certified entry to trunk routes by existing carriers at a faster pace than it created additional routes, so that by 1974 all trunk carriers generated over 70 per cent of their revenue on routes in which they faced competition.[36]

The CAB regulated the level and structure of fares, and other restrictions were imposed on many certificates. On the trunk routes, frequency was not regulated, nor was the type of equipment that could be flown. Thus the quality of service tended to be regulated indirectly, rather than directly as it is on many routes in Canada. In many cases, non-price competition between carriers, particularly with regard to flight frequency, resulted in the movement of costs up to the level of the regulated fares. In effect, the U.S. regulatory system protected a dozen privately owned trunk carriers that competed, in various degrees, in terms of service with each other.

1.7 Summary

Although the regulatory policies and the markets in Canada and the U.S. differ, until 1978 there had been close similarity in that the two industries were subject to similar price, entry and exit regulation. There has been, not surprisingly, a close similarity between the opposing predictions of those commentators who have considered the effects of removing the direct regulations on the two industries. The performance of the U.S. airlines, now operating in the third year of their deregulation, present a means of testing these predictions, of observing the movement of fare levels and structure, quality of service, profits and bankruptcy rates. The possibility of aligning results with predictions is of interest, for if a prediction is shown to be in error in the light of U.S. experiences, the onous is on the predictor to distinguish those conditions in Canada which will cause a reversal in the outcomes.

The high proportion of international and transborder traffic carried by the Canadian carriers, however, has meant Canadian ailine performance has not been isolated from the effects of deregulation in the U.S. The next two chapters explore this connection, and outline the changes in policy that have been taken in the two countries during the near past.

Notes

1. There are a number of studies which set down the arguments given to justify the direct regulation of the airline industry. See for instance, Theodore E. Keeler, Domestic Trunk Airline Regulation: An Economic Evaluation. Study on Federal Regulation. Committee on Governmental Affairs. Appendix to Volume VI, Framework for Regulation U.S. Senate, December 1978, 96th Congress, 1st Session, Senate Document No. 96-13.

2. D. Philip Locklin, Economics of Transportation (Homewood, Ill., Irwin, 1966).

3. Locklin, op. cit., Chapter 35.

4. This possibility is analized by John C. Panzar, "Regulation, Deregulation, and Economic Efficiency: The Case of the CAB," American Economic Association, May 1980, pp. 311-319.

5. 52 Stat 973, was replaced by the Federal Aviation Act of 1958, 72b Stat. 731. The provisions of the two acts are almost identical concerning the power of the CAB. In this chapter reference will be made to the C.A.A. rather than to the F.A.A.

6. Ten licenses were refused during the first two years of licensing, while 71 were issued, with 63 based on "grandfathers rights." See K.W. Studnicki-Gizbert, "The Structure and Growth of the Canadian Air Transport Industry," in E.F. Beach and J.C. Weldon, ed., Canadian Political Science Association Conference on Statistics, 1960 Papers (Toronto: University of Toronto Press, 1962) pp. 225-26.

7. See A.W. Currie, Canadian Economics Transportation (Toronto: University of Toronto Press, 1967) Chapter 21, pp. 553-56.

8. See A.W. Currie, op. cit., pp. 556-60.

9. See the Report of the CAB Special Staff on Regulatory Reform. CAB Washington, July 1975, pp. 20-38. According to one commentator, "the theory that the excessive competition in the thirties led to excessive instability has had a considerable impact on the subsequent thinking on the matters of competition and regulation" in Canada. K. W. Studnicki-Gizbert, op. cit., p. 231.

10. Although prior to 1958 Trans-Canada Airlines had a monopoly on the transcontinental routes, it did compete with Quebecair for traffic between Montreal and Sept Iles, and with American carriers on the Montreal to New York and Toronto-New York transborder routes and with C.P.A.L. in parts of the west. See A.W. Currie, op. cit., p. 564.

11. For a detailed comparisons between the two regulatory systems, see:

Zena Arnoff Seldon, The Economic Implications of Alternative Air Transport Regulatory Practices: A Canada - United States Comparison. Phd. Dissertation, University of Manitoba, Winnipeg, November 1978, pp. 45-6 and William A. Jordan, "Comparisons of American and Canadian Airline Regulation," Perspectives on Canadian Airline Regulation, edited by G.B. Reschenthaler and R. Roberts (The Institute for Research on Public Policy, Montreal 1979).

12. There is, not unexpectedly, more literature in the U.S. containing predictions of the effects of deregulation. Some of these were presented in summary form at the Oversight Hearings of Civil Aeronautics Board before the Subcommittee on Administrative Practice and Procedure of the Committee on the Judiciary of the United States Senate, ninety-fourth Congress, Washington, 1975. (Referred to as the Kennedy Hearings.) The arguments supporting deregulation were presented, among others, by W. Jordan (pp. 464-87) and A. Kahn (pp. 93-99). The opposition to deregulation was led by the Air Transport Association of America (ATA). George W. James presented testimony stating their case in favour of regulation and against deregulation (pp. 115-140).

In Canada, a useful summary of the arguments and predictions concerning regulation and deregulation are contained in: G.B. Reschenthaler and B. Roberts, op. cit. The case against deregulation was presented by R.J. Lafrenière, "Regulation and the Airline Industry," while a case for more competition was made by Bruce Roberts, "Canadian Airline Regulation: The Need for a Competitive Orientation." The case for regulation is also presented in Economic Regulation and Competition in the Domestic Air Carrier Industry, A Discussion Paper prepared for the Interdepartmental Committee on Competition and Regulation in Transportation, Ottawa, February 1981, pp. 1-13.

13. For a useful summary of the analysis supporting these predictions, see Theodore E. Keeler: op. cit.

14. The argument that destructive competition could ensue from deregulation is expressed in the following studies: Gilles Renard, Competition in Air Transportation: An Econometric Approach, unpublished MS. Thesis, Department of Aeronautics and Astronautics, M.I.T. and William E. Fruhan; The Fight for Competitive Advantage: A Study of the United States Domestic Air Carriers (Boston, Harvard Business School, 1972). A similar argument that too much competition could produce over-capacity, increased costs and lower profits was made by Otto Lang, Minister of Transport, in 1979, when he announced the Government's decision to remove all restrictions on the transcontinental operations of C.P. Air:

> "Appropriate steps will be taken to monitor the situation to ensure that there will not be wasteful competition between Air Canada and CP Air, resulting in any significant decline in passenger load factors, nor result in a deterioration of service to small communities" (by eroding Air Canada's ability to cross-subsidize its low-density routes with profits made on its transcontinental services). Transport Canada, Press Release March 23, 1979.

15. See for instance, the argument and references contained and cited in Air Services to Small Communities, United States, Department of Transportation, March 1976, p. 20, and the analysis and evidence

presented by the Air Transport Association of America at the 1975, Kennedy Hearings, op. cit., pp. 141-378. In Canada, a recent study presented the following argument:

> "The reasons why this elaborate structure of government intervention was deemed necessary do not lie only in the importance that was ascribed to the development of a stable, adequate and efficient system of air transportation. At least as important, it appears, were the low traffic densities historically characteristic of most air transport markets in Canada, the high potential for instability inherent in the air transport business in low density markets, and the perceived improbability that private enterprise could meet the country's needs without the support of government."

Economic Regulation and Competition in the Domestic Air Carrier Industry, op. cit., p. 11.

16. See the arguments presented in Air Services to Small Communities, op. cit., and an earlier study, Service to Small Communities, CAB, March 1972, Vols. I and II, which estimated the minimum number of passengers able to support an unsubsidized service was 17 to 18 passengers a day.

17. The linearity of the Canadian system is indicated by the fact that only 5.4 per cent of the number of trips in 1979 used more than one carrier. The connecting points were also few in number. In the same year, only seven cities accounted for 85 per cent of all flight connections, Toronto alone accounting for 27 per cent. Aviation Statistics Centre, Statements 35 and 37.

18. Pan American, however, was a chosen instrument of U.S. international aviation policy in the 1930s and early 1940s.

19. See George W. Douglas and James C. Miller III, Economic Regulation of Domestic Air Transport: Theory and Policy (Washington, D.C.: The Brookings Institution, 1974).

20. Trunk carriers accounted for over 80 per cent of both passenger miles and of revenue. See C.A.B., Air Carrier Traffic Statistics and Air Carrier Financial Statistics (Washington, U.S. Government Printing Office, 1976).

21. There is a difference in the use of the term "local carrier" in the U.S. and in Canada. In the U.S., local carrier refers to those who prior to 1978 operated primarily short to medium haul scheduled routes. In Canada, the closest group to this class of carrier are the regionals. The term local carrier in Canada is used to denote those carriers which approximate to the commuter carriers in the U.S. For statistical purposes they are classified as Level III carriers.

22. In 1947 the CAB established two classes of non-scheduled air carriers: "small" and "large". The carriers comprising the class of "small non-scheduled carrier" were "air taxis" and they were those carriers that did not use any single aircraft having a gross take-off weight in excess of 10,000 pounds. Then in 1969 the CAB established a class of exempt-scheduled air carriers, known as "commuter air carriers." Established under Part-198 of the CAB's Economic Regulations, they were required to register with the CAB. Exempt from Section 401 of the 1958 FAA, they were not subject to CAB rate and route regulations, but they were restricted in the size of the aircraft they could operate. In 1969 the certificated gross-take-off weight could not exceed 12,500 pounds (approximately 19 passenger seats). On July 18, 1972 the Board issued an order permitting commuters to operate aircraft seating no more than thirty passengers and having a payload capacity of no more than 7,500 pounds. See George C. Eads, The Local Service Airline Experiment, (Washington, The Brookings Institution, 1972).

23. In 1974 the government of Alberta purchased this airline.

24. See William A. Jordan, Performance of Regulated Canadian Airlines in Domestic and Transborder Operations, Research Monograph, Bureau of Competition Policy, Department of Consumer and Corporate Affairs, in process, p. 33.

25. See Jordan, ibid., p. 34. In comparison, the U.S. carriers produced at least 64 per cent domestically, and generally produced over 95 per cent of system RTM within the U.S. Jordan, Ibid., page V.

26. See Jordan, ibid., Table 5, p. 32.

27. Note that the numerator consists of the passengers on all services, whereas the demoninator is of the passengers on unit-toll (i.e., scheduled) services. If the number of until-toll passengers carried by III Level carrier is expressed as a percentage of until-toll passengers, then the figure of 6.1 percent is derived. The respective measure for revenue passenger miles is 0.8 per cent.

28. U.S. data taken from Commuter Airline Industry, 1979 Annual Report, (Washington, Commuter Airline Association of America, 1978).

29. The restrictions on operations have primarily been of two kinds: prohibitions on non-stop services and turn-around services. A third restriction has been in the form of controls on frequency. Most of these restrictions are imposed on entrants where it is considered by the CTC that unrestricted competition is unwarranted or in contravention of ministerial policy statements. The prohibition on non-stop service is usually imposed in situations where an entrant applies to operate between intermediate points which also link larger centres. The restriction is imposed on the carrier serving the major centres. In the case of restrictions on frequency, these take the form of an upper limit, which serves to restrict competition, or a lower limit, to ensure a satisfactory level of service.

    Limitations on the size of the aircraft is a frequently imposed restriction. In some cases the limitations reflect the available airport facilities, and these are found on the Class IV and V licences. In other cases however, limitations on aircraft are imposed on licences which also contain non-stop restrictions. See Unit-Toll Licences and Airline Conduct: The Extent of Competition, Research Branch, Canadian Transport Commission, 1979.

30. C.T.C., op. cit., Table 7, p. 23.

31. C.T.C., _op.cit_., p. 49.

32. C.T.C., _op. cit_., p. 50.

33. C.T.C., _op. cit_., p. 52.

34. C.T.C., _op. cit_., p. 51.

Details of such "accommodations" are not well documented. In April 1978, however, Mr. Claude Taylor, President of Air Canada, testified at the CTC's hearing on the proposed acquisition of Nordair Ltd. by Air Canada. It proved to be illuminating on this topic:

Q. [Mr. Taylor, yesterday you stated:]

"There is a public service to be provided for and there are accommodations that have been unprecedented in this country and accommodations between main line and regional carriers over the years and both accommodations have been respected by and large by both parties." ... do you mean accommodations in connection with the scheduling of, say, a main line carrier and the regional carrier on a particular route?

A. Yes, ... It is one of the accommodations.... Where within the regulatory framework the decision has been made in the public interest that there should be more than one carrier on a route, ... [for example] where there are two carriers operating, say, Saint John to Montreal or Fredericton to Montreal, and where the regional carrier has perhaps one or two flights a day, where if Air Canada did not "respect" the accommodation, and if we wanted to mount capacity on that route, the losses probably would not put the total company into bankruptcy.

But, there is a combination of live and let live in the public interest and we have not chosen over the years to not respect that kind of accommodation. We, and I believe your own airline [CP Air] in some cases has, as well, on other regions of Canada with other regional carriers, and we have found the accommodation between the two of us, in order to fulfill what I interpret as having been determined as a public interest by the [Air Transport Committee]....

Q. ... But, you, in your company, have really the determination in connection with what flights will be flown by each of the two....

A. ... I wouldn't want to set myself above my peers of the panel here today [i.e., the ATC] who I think have the ultimate responsibility to determine the service level.

Q. Could I suggest to you that the [ATC] panel might not have the authority, especially to deal with the number of flights that you might schedule between two specific points?

A. On any given schedule I would agree with you.

Q. ... So, if you enter into an agreement ... you in effect have had the power to determine how many flights each carrier will fly. Is that right?

A. I have had the power, or we have had the power to determine the number of flights we will fly. On certain routes the licence of the other carrier [may] ... have determined how many flights the other carrier will fly.

Q. ... you have the financial ability that if the other carrier does not agree to the number of flights you can put him out of business?

A. And this was the point I was making yesterday, that this I think is unique to some extent, you know, in the industry in this country. But, it is certainly unique in this industry versus other industries.

Q. Yes. So what you are saying is that your power has been used wisely?

A. I would like to think so....

Q. Now, the first instance, did you have an agreement with Pacific Western as to how many flights they would fly and how many flights you would fly? [between Vancouver and Victoria].

A. that is going back a little bit in history, but as I remember that story unfolding, there was a gradual decrease of our capacity on the route as theirs increased.

Q. Are you sure it was not by agreement?

A. No. It was at least by an understanding....

The questioning at the hearing also revealed that Air Canada had an "accommodation" in connection with service of Great Lakes Airlines, a local service carrier, between the points of London and Toronto. C.T.C., Air Transport Committee, Hearing on the Proposed Acquisition of Nordair Ltd. by Air Canada, April 1978.

35. In testimony, Mr. Taylor described the services provided to the regionals and locals by Air Canada's computerized Reservation System as commercial transactions rather than as "accommodations." C.T.C., Air Transport Committee, op. cit.

36. See Douglas and Miller, op. cit., Table 7-3.

Chapter 2

THE U.S. AIRLINE INDUSTRY: REGULATION, LIBERALIZATION AND DEREGULATION

2.1 Introduction

When President Carter signed the Airline Deregulation Act (ADA) on October 24th, 1978, it formally ended forty years of regulation established by the 1938 Civil Aeronautics Act (CAA).[1] Fares and the entry and exit of carriers into routes had all been regulated by the Civil Aeronautics Board (CAB), the body established by the CAA.[2] Under the ADA these regulations are to be removed. By January 1st, 1985 the CAB is scheduled to disappear.

The signing of the Act marked the end of a vigorous campaign for regulatory reform which began in the academic community and entered the political arena in 1975. The mid-seventies were years of recession following, in part, from the shocks of the oil and raw material price increases of the early part of the decade. The late 1930s were more appropriately described as years of depression. During both periods the airline industry was adversely affected, yet the responses to these deteriorating conditions were very different.

In the 1930s regulation was introduced and designed to protect what was in effect a struggling, fledgling industry which remained financially viable, largely due to mail contracts from the government.[3] By the 1970s this industry was producing 250 times more passenger miles than it had done forty years earlier. It was investing in jet aircraft which flew to all points of the continent and the globe. Yet it operated under regulations which had been established four decades ago to promote and protect a struggling, infant industry. By the 1970s, although the industry was no infant, it was nevertheless struggling. The trunk carriers found themselves with newly acquired wide-bodied jets operating over routes on which load factors were falling, costs were rising and there was a strong pressure to raise fares. The scheduled carriers found that increasing in-roads were being made into their markets by the supplemental carriers. These were developments which caused the airline industry, along with other interested parties, to question the efficacy of the regulations within which the industry operated. For the most part, these regulations limited scheduled interstate carriers to competing in the quality of service they offered the customer. Competition in fares did not exist. The threat of competition provided by the entry of carriers into routes and into the industry was limited.

The adoption of protective regulatory policies might appear to be the result of rules contained in the CAA. Such an interpretation is deceiving. The CAA did provide the Board with powers to regulate entry and fares in ways so as to protect the incumbent carriers from outside competition. Contained also in the CAA was the stated intention to use, in part, the market as a regulator of the industry. The advent of two reforming Boards in the mid-1970s showed that policies could be pursued under the CAA which greatly increased the role of the market in regulating the industry. The ADA in 1978 went further by establishing the phased removal of the regulatory agency.

Section 2.2 describes the 1938 CAA and presents a brief outline of the regulatory policies pursued by the Board. The chapter concludes by sketching the major changes in policy that took place under the reforming Boards in the mid-1970s.

2.2 Regulation of the U.S. Airline Industry

In 1938 Congress passed the Civil Aeronautics Act (CAA), authorizing the Civil Aeronautics Authority (renamed the Civil Aeronautics Board, CAB, in 1940) to oversee the domestic and foreign transport services of U.S. carriers. The CAB was invested with broad powers. It was given the power to set and to judge fares for passengers, air mail and freight, to control entry into the industry, to grant antitrust immunity, to administer subsidies and to regulate aviation safety. In 1958 the regulation of safety was passed to the Federal Aviation Administration but this remained one of the few changes in regulatory authority until the passing of the Airline Deregulation Act in 1978. A statement of the intended use of these powers was contained in the Title I of the 1938 Act:

> In the exercise and performance of its powers and duties under this Act, the Board shall consider the following, among other things, as being in the public interest, and in accordance with the public convenience and necessity:
>
> (a) The encouragement and development of an air-transportation system properly adapted to the present and future needs of the foreign and domestic commerce of the United States, of the Postal Service, and of the national defense;
>
> (b) The regulation of air transportation in such a manner as to recognize and preserve the inherent advantages of, assure the higher degree of safety in, and foster sound economic conditions in such transportation, and to improve the relations between, and coordinate transportation by, air carriers;
>
> (c) The promotion of adequate, economical, and efficient service by air carriers at reasonable charges, without undue discrimination, undue preferences or advantages, or unfair or destructive competitive practices;
>
> (d) Competition to the extent necessary to assure the sound development of an air-transportation system properly adapted to the needs of the foreign and domestic commerce of the United States, of the Postal Service, and of the National Defense;
>
> (e) The promotion of safety in air commerce; and
>
> (f) The promotion, encouragement, and development of Civil Aeronautics.

These provisions indicate the apparent conflict in the intentions of the legislators. For although there was a desire to promote competition, there was also a fear that competition would produce undesirable results. Promotion and protection were needed because the industry was perceived to be an "infant," unable to exist if left to unregulated market forces.[4] Rather than being required to contain a natural monopoly, regulation was required because of the perception that if left unregulated, competition would be destructive, bringing with it interrupted services, bankruptcies, and an exodus of capital. Capital was required to build a nationwide airline system, the benefits of which would also accrue in the form of an improved, rapid air mail system and a more capable national defense. Only an airline industry which was protected could provide such a nationwide system.

These perceptions of the unregulated, self-destructing infant industry were shaped during the depression years of the thirties, when prices and wages had fallen. The acceptance of its tendency to self-destruction, however, would, in retrospect, seem to have sprung not from the inherent characteristics of the industry, but from the workings of a poorly designed piece of legislation. The specific bidding scheme for mail contracts embodied in the Air Mail Act of 1934 encouraged bids below costs because it held out the possibility of increases in subsidies once the contracts were awarded. If the increased subsidies did not materialize, the carriers went bankrupt.[5] Their "destruction" was a result of the poorly designed means of issuing the subsidy. The mail subsidies, however, were essential to the maintenance of a viable passenger airline service, and they remained so for some considerable time after the passing of the CAA.

The industry developed from an infant during the forty years that followed the passing of the CAA. The policies[6] of the Board also developed over the years. Throughout the period, however, the Board pursued a policy of "protective certification." Under the "grandfather clause" of the 1938 CAA, 19 trunk carriers were certificated.[7] Over the forty years of the Board's existence under the CAA, no new carriers were allowed to enter and compete among the ranks of the trunk carriers. Incumbent carriers, however, were allowed to enter routes, if demand was sufficient "to support the new service without seriously eroding the overall profitability of the incumbent carrier or carriers."[8] The Board also used subsidies to support services provided by a new class of carrier known as the local service carriers.[9] Starting in 1943, trunk carriers were permitted to drop some of their least profitable stations, allowing them to be served by the subsidized local service carriers. During the 1950s and 1960s the Board permitted many of these local carriers to serve trunk routes on a limited, non-subsidized basis. Over time, the Board moved the local carriers off direct subsidies and a number engaged in internal cross-subsidization. As on the trunk routes, however, the extent of this cross-subsidization was small when measured against the total costs or revenues of the domestic airline industry, and it declined sharply in the late 1960s.[10]

Generally, the Board did not permit price competition by new carriers and it discouraged price competition by established carriers.[11] The Board was reluctant to allow fare cuts and to prevent entry by carriers proposing such cuts. It would appear that the Board, certainly in its early years, feared that carriers' revenue and profits would decline. One result was that fare reductions were limited to special groups. Over the first twenty years it did not formulate an overall consistent policy regarding the level and structure of fares. In 1960 this changed when the General Passenger Fare Investigation (GPFI) promulgated the general principles of cost accounting on which fares were to be based. Fare levels were also influenced a year later, when the Board introduced a rate of return regulation by establishing 10.5 percent as a "reasonable" rate of return for the trunk carriers to earn. As a result of the Domestic Passenger Fare Investigation (DPFI) in 1971, the rate of return was raised from 10.5 to 12 percent.[12] The Board also introduced a load factor standard. This was established at 55 percent. These standards implied that a carrier could earn a 12 percent return on all routes if 55 percent of all seats were filled. If the returns earned by the carriers were inadequate, the Board could authorize fare increases. Similarly, if competition in service between carriers had driven load factors down to an inadequate level, fares could be increased.

The regulation of a dimension of quality of service, namely the ease of taking a desired flight as measured by the load factor, indicated a recognition by the Board of the apparent effects of fare regulation and competition between the protected carriers. The carriers thwarted the attempts of the Board to raise the rate of returns of the trunk carriers by vigorously competing in the quality of service they provided. This served to raise costs and to lower profits below the desired rate of return.

The industry in the late 1960s and early 1970s was likened by some observers to that of a cartel.[13] The Board was seen to be allowing carriers to restrict capacity in order to maintain their market share, setting fares significantly high to protect inefficient carriers and controlling entry. There was, however, competition in service between carriers, and this appeared to raise costs and lower profits. This competition, to some observers, was indicative that the industry was workably competitive. Rather than being an industry consisting of local monopolies, the industry was perceived to consist of carriers who faced limited economies of scale and who would not be self-destructive if engaged in unregulated competition. To these observers[14] the industry did not appear to have high rates of fixed to variable costs. Capital and labour in the industry were not seen to be immobile. In short, the prime conditions for destructive behaviour were not thought to be present.

2.3 Liberalization and Deregulation

The notion that the airline industry was workably competitive and that the regulations exercised by the Board were acting to protect the industry rather than to serve the "public interest" activated discussion of the use of the market as a regulator of the industry. Under the CAA, the competitive market was stated to have a role in the encouragement of "the sound development of an air transportation system." The advent of two reforming boards in the mid-1970s, chaired by John Robson and then by Alfred Kahn, showed the Board could pursue policies under the CAA which moved away from direct regulation and tilted towards the use of the market as the regulator.

In fact, the substitution of market regulation for protective regulation can be seen to have involved four distinct phases during the 1970s. The decade opened with the Board exercising unprecedented protectionist policies. Between 1975 and the mid-1977, the Board reversed these protectionist policies, while between mid-1977 and the signing of the ADA in the fall of 1978, the Board pursued policies which discouraged protection and encouraged regulation by the market.[15] The policies since October 1978 have been largely those of implementing the phases of the deregulation contained in the ADA.

2.3.1 Intense Protection: 1971-75

In August 1971, American, TWA and United obtained sanction from the Board[16] for their agreement to reduce their services. By waving its power to impose antitrust laws, the Board allowed the three carriers to decrease the number of flights on four long-haul markets by 6 to 38 percent, depending on the season. During the aftermath of the Arab oil embargo in the fall of 1973 the Board encouraged carriers to reduce their flight frequencies and granted antitrust immunity to the airlines with respect to their requested[17] capacity limitations.

In the early months of 1974 the industry was operating under a set of regulations which were being interpreted in as tight and restrictionist a manner as at any time in the three and a half decades of the Board's existence. It appeared that the scheduled carriers and the Board were in close agreement as to the desirability of these regulatory policies. The criticism of the Board and its policies came primarily from the academic community. With little or no political support, the critics remained unable to effect change. Yet the immunity of the Board to these criticisms was not as strong as it appeared in the spring of 1974. For within a year the Senate had conducted a critical Oversight Hearing on the Board's policies, a new Chairman of the Board with pronounced sympathies towards deregulation had been appointed, and the Board had authorized the first of a number of discount fares. In October 1975 President Ford unveiled his administration's regulatory reform bill. In March 1977 United Airlines publicly supported the deregulation of the industry. Three years after President Ford unveiled his bill the Airline Deregulation Act became law.

2.3.2 The Reappraisal of Protectionism: 1975-77

In May 1974 the Senate Subcommittee on Administrative Practice and Procedure initiated an Oversight Hearing into the CAB. Chaired by Senator Edward Kennedy, the hearings took place in February and March of 1975. The hearings turned into a showcase for the arguments supporting the removal of the protective economic regulation of the scheduled carriers.

Central to the analysis of the deregulators was the criticism of regulations which sought to protect and promote an industry by restricting competition. Air transport, according to their line of argument, was a workably competitive industry. By restricting price competition and impeding new entrants, the Board had served to provide incumbent carriers with monopolistic power. Fares were higher then if conditions of price competition and unrestricted entry had existed.[18] Despite higher prices, profits were not high, in fact, they were often well below the returns earned by comparable industries. Rechanneled competition appeared to be the cause. The Board had not consistently regulated service competition, and so the carriers competed in providing cinema shows, more comfortable seating configurations and, most importantly, in frequency of flights. So long as carriers could increase their revenue by adjusting their services, they would do so, up to the point where the costs of the increase in quality of service equated with increased revenue. In this way competition in the quality of service acted to bring the costs of carrier operations up to the level of regulated fares.[19]

A comparison with the largely unregulated intrastate carriers in California and Texas suggested passengers would choose services of a lower quality and of a lower price than was being provided on the regulated interstate routes.[20] The losers from regulation were those passengers who were willing to pay lower fares for lower quality of service. Those gaining from the protective regulation were those who enjoyed the resulting security. They were the marginal carriers, the financiers to the carriers, the labour unions and the managements of the airlines. The Board protected incumbent carriers from new entrants who were willing to undercut their fares. By restricting entry they had conferred value on the route certificates. In restricting the trade or transfer of route certificates between carriers they encouraged expanding airlines to merge. To the financially marginal carrier and to its financiers, mergers provided security. They also allowed labour unions to lever up their wage rates in the knowledge that if their claims weakened the carriers, it could be merged and with it could be saved most of their members' jobs.

If this regulatory protection was removed it was argued that the inherent characteristics of the industry would be revealed. Prices would reflect costs and the latter would reflect an industry devoid of substantial economies of scale. Price competition would be vigorous and largely non-discriminatory. Stimulated by lower fares, traffic would grow and so would the profits of the carriers. But to achieve such performances would require the removal of price and entry regulations and with their removal would go the security provided by such protective regulation.

At the Kennedy Hearings the proposition that less regulation and more competition would be beneficial to the consumer and to the industry grew into a challenge to the airlines and to the CAB. In the ensuing clash, the hearings exposed the limitations of the arguments presented by the opponents of deregulation on two important counts: that the lower costs and prices on the largely unregulated intrastate carriers in California and Texas were due to "special factors"[21] and that deregulation would result in reduced services to smaller communities because it would break-up the system of internal carrier cross-subsidization which facilitated such services.[22]

In January 1975 the Board had started an internal study, conducted by a special staff, into an examination of the industry's regulation. In July the report, entitled the Report of the CAB Special Staff on Regulatory Reform, was published.[23] It carefully and clearly pointed out that in its judgement, the undesirable effects of protective regulation outweighed the benefits. It recommended that "protective entry, exit and public utility-type price control in domestic air transportation be eliminated within three to five years by statutory amendment to the Federal Aviation Act."[24] While such recommendations were not necessarily held by all members of the Board, it nevertheless started to change its restrictive policies. In the spring of 1975 the route moratorium and the agreements on capacity limitations were ended. On August 25, 1978, the Board revised its previous policy on discount fares standards established in the Domestic Passenger Fare Investigation (DPFI). The summary contained in the statement of general policy illustrates the change in the direction of policy:

> "The CAB is modifying its current passenger fare policies developed in the DPFI to allow carriers the flexibility to engage in normal-fare price competition relatively free from the intervention of government regulatory barriers. These new policies are designed to stimulate market-by-market price competition among the airlines, encourage more efficient operations, produce lower normal fares, and lead to greater consumer satisfaction. Under this new rule, carriers will no longer be required to file identical fares for all markets of equal distance; instead, they will be able to experiment with fares tailored to their individual costs and markets over a broad range without the likelihood of suspension. The ceiling of the range will be the coach fare formula now used by the Board in evaluating general fare increases. The carriers will, however, be allowed the flexibility to price their services above the ceiling by 10 percent in certain presumptively workable competitive markets. Also, to encourage peak/off peak pricings, the Board will allow the carriers the discretion to increase their fares in other markets by 5 percent of a number of peak days throughout the year. The floor of the range will be 50 percent of the ceiling fare level; for the purposes of off-peak pricing, carriers will also have the discretion to reduce their fares to 70 percent below ceiling fares on 40 percent of their available seat-miles per week. Within their entire zone, carriers will be able to file fares with the Board without submitting an economic justification; and the Board will not suspend these fares on the grounds that the level was unreasonable unless an opponent can show that the fare immediately threatened a substantial and irreparable harm to competition. Finally, the carriers will no longer be required to maintain minimum first-class fares. The Board is also changing its tariffs regulations and procedural rules governing the economic justification for tariff filings and the procedures for filing complaints against them."[25]

2.3.3 The Encouragement of Competition: 1977-78

The first important reversal in the previously restrictive pricing policy was the passing of a Board Order[26] in February 1977 which authorized Texas International's "Peanuts" fares. These were promotional fares (i.e., unrestricted discriminatory fares of limited applicability), set at 50 percent below coach fares on selected flights on five medium-length routes in the southwest. A month later the Board passed an Order[27] which allowed American Airlines to sell its "super saver" promotional fares in transcontinental markets. These were 40 percent lower than coach fares and were the first major promotional fares in transcontinental markets. Other carriers - including United and TWA - followed with matching discount fares.[28]

A major change in the Board's policy came in the spring of 1978, when the Board authorized Western's "No Strings" low normal coach fare on the Miami-Los Angeles route.[29] As the name suggests, the fare could be obtained without the usual requirements attached to such fares. Then just over two weeks later, on April 14, the Board launched its proposal for a new pricing standard.

The new policy, introduced in August 1978, was to establish a zone of "fare flexibility," where carriers were free to set their own fares. The upper ceiling and lower floor were justified on the grounds that price competition would only be fully effective so long as competitors were able to enter the markets free of restrictions. The argument in support of the price ceiling was:

> Where an entry into an industry is restricted, as it is here, price ceilings are necessary to protect the public from monopolistic and oligopolistic overcharging.[30]

The justification of a rate floor appeared to be based on a perception of the "disequilibrium" the industry could find itself in as it moved out of regulation and into unregulated competition. As a result of restricted price competition and excessive service competition load factors were low. This condition could cause scheduled carriers to respond to lower priced charter fares by using their new found pricing freedom by cutting discount fares, increasing their passenger flows but at the same time causing scheduled services to deteriorate. The characteristics associated with scheduled services - the ability to reserve seats on convenient flights at convenient hours - could deteriorate as a result of an extensive discount pricing policy. The Board expressed these opinions as follows:

> ... we believe a floor is necessary as we introduce our new policies, so that we can be satisfied that the movement toward competitive pricing does not result in a deterioration in service. We, of course, do not expect it to occur; and, once we are assured by experience that fares below the floor will not lead to inadequate service, we should be able to eliminate the floor completely.[31]

The antidote to such actions by the carriers was seen to be to increase the possibilities of carriers entering routes of their choice.[32]

The precedent followed by the Board for forty years had been to grant authority only to those applications which could be justified by traffic, revenue and cost projections. The Chicago-Midway Low Fare Route Proceeding[33] placed in issue applications from new entrants offering services at lower fares. The Chicago-Albany/Syracuse-Boston Competitive Route Proceeding[34] went further by expressly introducing and stressing as highly important offers of price reduction by applicants. Although these were important initiatives in opening up routes to competing carriers, they were superseded by the introduction of what became known as the "multiple permissive" or open entry route policy. In the Oakland Service Case[35] the Board awarded authority to all fit applicants, not just to one, as was typical in most city pair markets based on comparative selection.

In the Chicago-Midway Low Fare Proceeding[36] the Board exercised its policy of multiple permissive entry. It granted permissive authority to five applicants in six markets. A couple of months later, in the Chicago-Midway Expanded Service Proceeding, the Board extended permission to an additional 17 Midway markets by summary procedures. Furthermore, as many of the certificate holders received one-stop service, the impact of the decision went beyond the immediate 24 certificated routes.[37]

The Oakland Service Case marked the abandonment of the policy of protective entry control. By granting authority to all fit applicants, the effect was to provide the incumbents with a continuous threat of competition, for the holders of authority could enter without waiting for renewed approval from the Board. The granting of authority to more carriers than could earn a profit on a route meant in effect the Board had abandoned its control over the selection of carriers for a route. In place of the Board was a selection process based ultimately on the relative strength of the entrants and the incumbents. The new policy also offered the prospect of this spreading of price competition through the air transport system.

Route certificates were now no longer necessarily scarce, and falls in their value was a possibility. The Board, in effect, no longer provided the security that many of the anti-reform airlines, unions and management saw as being the advantageous effects of protective regulation.

There was the possibility that their security could have been reduced sufficiently to offset the costs of the remaining interference by the CAB. Not surprisingly, the airline industry, many members of which had been hostile to reform of the protective regulations,[38] started to change over by endorsing the changes. The tide of change was all the stronger as the industry in 1978 was experiencing what turned out to be a record year of financial success.

The policy, however, of multiple permissive entry posed a potential threat of competition to the incumbent carriers. It did not actually lead to the immediate, widespread entry of competing carriers on to the incumbent's routes.[39] Furthermore, the new fare and entry policies of the Board came under attack.[40] The Board, however, did not have to wait to receive the judgements of the courts[41] on its actions, for the Cannon-Kennedy Bill was rapidly passing through Congress.[42] On October 24, 1978, the President signed the Airline Deregulation Act.

2.4 The Airline Deregulation Act of 1978

The so-called "sunset provisions" (section 40) of the Airline Deregulation Act (ADA)[43] chart out the termination dates of the Board's authority. After December 31, 1981, the Board's authority over certification and exit of carriers was scheduled to be terminated.[44] On January 1, 1983, it's authority over rate making was scheduled to cease. Two years later, on January 1, 1985, the Department of Transportation, along with the Department of State, will take over the handling of foreign air transportation and the compensation involved in providing "essential air services." The Department of Justice will have direct jurisdiction over mergers, cooperative airline agreements and consolidations, while the Postal Service will have the authority to set mail rates.

A number of these provisions have been brought forward. Under a provision of the ADA, however, the Board is called upon before January 1, 1985, to prepare and then to submit to Congress a comprehensive review of its implementation of the regulatory reform contained in the Act. Accompanying these reviews will be an opinion, from the Board, as to whether these changes have "improved or harmed the domestic air transportation system." Included in this opinion will be a judgement as to whether the public interest requires the Board to continue to exist after January 1, 1985. If the Board opines that it should exist, it then has to provide changes in the ADA which will ensure continued improvement of the national air transportation system.[45]

Before the termination date and the final evaluation, the Board has the responsibility of ushering in the new reforms. The spirit underlying the reforms is no more clearly illustrated than in the Declaration of Policy, as set down in section three. It differs considerably from the Statement of Policy contained in the Title to the CAA.

The Declaration of Policy (Section 3) under the ADA directs the Board to consider, as being in the public interest, and in accordance with the public convenience and necessity, the following:

4. The placement of maximum reliance on competitive market forces and on actual and potential competition
   A) to provide the needed air transportation sytems, and
   B) to encourage efficient and well-managed carriers to earn adequate profits and to allocate capital....

7. The prevention of unfair, deceptive, predatory, or anti-competitive practices in air transportation, and the avoidance of:
   A) unreasonable industry concentration, excessive market domination and monopoly power; and
   B) other conditions; that would tend to allow one or more air carriers unreasonably to increase prices, reduce services, or exclude competition in air transportation....

9. The encouragement, development, and maintenance of an air transportation system relying on actual and potential competition to provide efficiency, innovation, and low prices, and to determine the variety, quality, and price of air transportation services."[46]

Unlike the CAA which viewed competition only "to the extent necessary" to develop the air transportation system, the ADA actually encourages competition. The Board is also directed to develop a regulatory environment in which decisions are promptly dispatched. The "simplified procedures" are not actually set out in the Act. Instead, these are expected to be formulated by the Board.

The ADA introduces a phased diminution in the economic regulations applied to the air passenger carriers. The timing, however, of the diminution and the removal of the particular regulations differ. Entry restrictions were scheduled to be removed before the carriers are free from the requirement of having their fares authorized by the CAB. The ADA also introduces economic regulations. These are primarily aimed at cushioning the perceived adjustment costs incurred as a result of deregulation. Furthermore, the ADA affects the economic regulation of the industry and does not directly effect the regulation of the whole air transportation system. In particular, the ADA does not directly effect the regulation of safety, noise, air navigation and airport usage.

Unlike the interpretation of the CAA under the CAB, the ADA does not restrict price competition nor does it protect existing and expanding trunk routes for the incumbent carriers. It promotes price competition and it enables it to be effective by easing the entry of carriers into routes of their choice. In so doing it allows the threat of entry to act as an agent in promoting effective price competition.

The realignment of carriers and equipment to routes is determined, in part, by the easing of the entry regulation. The removal of exit regulation is far from complete. Carriers cannot abandon a route if it means the communities will not receive essential air services. Under the ADA, the Board is directed to establish a level of "essential air transportation" which cannot be less than two daily round trips, five days a week - or the level of service actually provided during 1977.[47] Carriers must give notice to the board before reducing service below the level of essential air transportation. If there is not a carrier willing to operate the service, then the incumbent carrier will provide the service in return for a subsidy, the costs of which are expected to be borne by the federal government and the local communities.[48]

The establishment of "essential air transportation" indicates the pressure exerted on the legislature to accommodate the possible losses of service experienced by smaller communities. Similarly, another indication of the pressure to cushion the possible effects of deregulation is the ADA's employee protection programme. This is intended to ameliorate the condition of employees who are deemed to have been laid off as a result of the deregulation of the carriers. Employees of at least four years standing are offered monthly assistance payments and preference in hiring if it can be shown they have been deprived of employment by a bankruptcy or a major contraction[49] of a certificated interstate air carrier during the first ten years after the enactment of the Act.

The changes in the economic regulation of the air carriers brings into consideration the form and extent of other regulations acting on the industry. The principal activities over which regulation has been developing and which could influence the effectiveness of the ADA and the performance of the industry are those of access to airports, airport congestion, aircraft noise and the safety of air travel.

The Noise Control Act of 1972 gives the FAA the authority to regulate aircraft noise at its source. In an attempt to achieve lower levels of noise the agency has set a series of deadlines by which various models of aircraft must meet new noise standards. The objective is to quieten all aircraft by 1985. In the meanwhile airport operators are contending with lawsuits and attempting to impose their own noise levels. Although it would appear the FAA could preempt the regulation of noise, they have been loath to do so because to preempt means to incur liability and with it the possibility of paying large damanges of citizens who have incurred damages as a result of excessive noise.

Difficulties arise where the airports wish to impose restrictions which discriminate against the new entrants. There has been a case, for instance, at San Diego Airport, where the airport, in an attempt to meet the State of California's Department of Transportation noise standards, tried to impose a one year moratorium on the entry of new airlines. This was withdrawn after the FAA pointed out that this was in violation of the

FAA's prohibition against the granting of exclusive rights by airports receiving federal funds. A similar charge of discrimination was made by the FAA in the case of San Francisco airport, which had attempted to ban new operations by aircraft which did not meet the noise standards established by part 36 of the Federal Aviation Regulations. The FAA pointed out the aircraft operated by incumbent carriers at this airport often did not meet the Part 36 limitations.

The FAA has also the primary responsibilities with respect to safety, and since the ADA was passed, it has initiated a number of changes in safety regulations. Many of them are amendments to existing legislation in recognition of the increasing activity of commuters and the particular aircraft they operate. These are designed to allow the design capabilities of existing small aircraft to be more fully utilized and to increase the availability of aircraft for the commuters.[50]

The passing of the ADA also exposes the system of regulation which operates to effect the provision of airport services such as landing slots, gates, terminal space and parking lots for aircraft. Many airports have been financed by revenue bonds which have been guaranteed by airline fees. By negotiating long-term contracts with airlines, the airports were able to use these contracts to back their bank loans. Underwriting the guarantee was the value of the airline routes which were maintained by the regulatory policy of the CAB. The result had been to link carriers and the entry restrictions regulated by the Board with the financing of many airports. The certificated carriers have long-term contracts with the airports, and at many of them they constitute the operating committees which allocate the airport slots.

The possibilities of conflict between this system of ownership and finance and the workings of a deregulated industry are considerable. Long-term incumbent carriers are likely to be loath to see carriers entering who haven't paid for facilities. The incumbents could also use their control over the airport slots to block the entry of competitors. The possibilities of such conflicts are greatest at those airports which are already experiencing congestion at the peak hours. The airlines which constitute the scheduling committees to parcel out the slots could clearly be open to the change that they favour incumbent carriers rather than the new entrants. This pressure could lead to the intervention of government adjudicators, such as the FAA, or the communities where the carriers are located. In view of the importance of airport access to the workings of a deregulated industry, such developments could lead to the return of the regulation of entry in another guise. In place of the CAB could be the states and the local jurisdictions of the large communities.

Alternatively, a market could develop in airport slots along with a pricing structure which reflects the costs of congestion at peak times of airport usage. The development of the latter has some importance for the eventual fare structure that will develop as a result of airline deregulation. If airport prices do not reflect the congestion costs, the costs to the passenger will be in the form of increased time involved in waiting in the air above airports and to the carrier. To operate and to price an extra flight will be determined by these perceived marginal private costs and not by the average costs incurred by all aircraft using the airport as a result of the extra flight. The price of the flight will not reflect the costs of operating the route and the airport.

In general, these developments in the safety of aircraft, in the regulations of airport use and airport noise, are reminders that the airline industry is only a part of the air transport industry. The removal of entry and pricing regulations applied to the trunk and local carriers is expected to have considerable effects on their behaviour and performance. It remains to be seen how the effects of airline deregulation effects the form and extent of regulations applied to the rest of the air transport system.

Notes

1. Stat. 102, 72 Stat. 740 USCA 1303

2. Originally known as the Civil Aeronautics Authority, the CAB received its new name in 1940. The CAB was reorganized to contain five persons, with 6-year terms, not more than three of which may be of one political party.

3. For a detailed discussion of regulation in the 1930's, prior to the 1938 Act, see Michael E. Levine, "Regulating Airmail Transportation." Journal of Law and Economics, 18 October 1975, pp. 317-359

4. See the Report of the CAB Special Staff on Regulatory Reform. CAB. (Washington) July 1975, p.p. 20-38 for a survey of the intensions that lay behind the 1983 CAA.

5. See Levine, op.cit. For an alternative interpretation, which stresses the inherent differences of the unregulated airline industry in the 1930's, see John C. Panzar, Regulation, Deregulation and Economic Efficiency: The Case of the CAB, American Economic Association, May 1980, pp. 311-19.

6. "Policy changes are put into effect as the result of regulatory actions consisting of Board adjudications on particular applications, petitions and other filings, as well as investigations instituted by the Board, and rulemaking .... It is also important to be aware that both the old and the new laws are largely passive in character ... that is, by and large the Board acts upon industry and civic requests requiring regulatory approval; or, in some cases, proposes and puts into effect policies which, however, can be successful only insofar as the carriers take advantage of the opportunities afforded. Hence, policy changes having important tangible impacts occur only if they are implemented on a wide scale by the carriers or if they provoke defensive or other responses that are consistent with the general direction of policy. Bibliography of Important Civil Aeronautics Board Regulatory Actions, 1975-79. CAB, December 1979, Introduction, page ii.

7. A trunk air carrier is a member of "a class of certificated route air carriers receiving original certification under the 'grandfather clause' of the Act (1938) and whose primary operations are in domestic, scheduled passenger service between relatively medium and large air traffic hubs," C.A.B., Glossary of Air Transportation Terms, February 1977.

8. Regulatory Reform, op. cit., p. 43.

9. A local service air carrier belongs to "a group of air carriers originally established in the late 1940s to foster and provide air service to small and medium communities on relatively low density routes to large traffic hubs.....". Glossary of Air Transportation Terms, op. cit.

10. For a discussion of the policy of the Board with respect to direct and internal, cross-subsidization see Regulatory Reform, op. cit., pp. 37-42.

11. For a description and analysis of the Board's pricing policies over the years see Regulatory Reform, op. cit., pp. 57-75. Two other detailed sources are in Richard E. Caves, Air Transport and its Regulators (Cambridge, Harvard Univeristy Press 1962), particularly pages 140, 155-67 and 167-68. A second source in the U.S. Congress, Senate, Oversight of CAB Practices and Procedures, Hearings Before the Subcommittee on Administrative Practice and Procedures of the Committee on the Judicary. 94th Congress, 1st Session on Oversight of CAB Practices and Procedures, Vol. 1, February 6, 1975. These hearings are hereafter referred to as the Kennedy Hearings. Civil Aeronautics Board Practices and Procedures. (Washington, U.S. Government Printing office 1975), see particularly pp. 214-55, referred to hereafter as the Kennedy Report.

12. See Theodore E. Keeler, "Domestic Trunk Airline Regulation: An Evaluation," Study on Federal Regulation, Committee on Government

Affairs. Appendix to Vol. VI, Framework for Regulation, U.S. Senate, 96th Congress. Senate Document No. 96-14, December 1978, pp. 89-90.

13. A. Kahn, for instance, suggested regulation of the airline industry, which he described as being "potentially and structurally competitive" had resulted in its cartelization:

> "In the airline industries, the requisite cartelization is achieved by the CAB restrictions on competitive entry, the resultant fewness of competing firms along particular routes, and the rather consistent discouragement of competitive rate reductions and special, promotional rates by the Civil Aeronautics Board, domestically, and by the International Air Transport Association. As a result, as anyone can observe, the airline companies compete very strenuously, instead, in adopting the most modern and attractive equipment, in the frequency with which they schedule flights, in advertising, and in providing comfort, attractive hostesses, in-flight entertainment, food and drink." Prepared Statement of Alfred C. Kahn of the Kennedy Hearings, op. cit., p. 97.

A similar description of the airline market was made by James Miller III in U.S. Congress, Senate, Regulatory Reform in Air Transportation, Hearings Before the Subcommittee on Aviation of the Committee on Commerce, Science and Transportation, 95th Cong. 3/21 - 24, 1977, p. 308.

Miller outlined in detail a "non-price rivalry model," in which the industry is assumed to be structurally competitive. He described a non-price equilibruim process that inevitably resulted in a break-even point of normal profit. If a carrier, for instance, had a load factor in excess of the break-even load factor, excess profits would encourage carriers to increase their capacity until the break-even point was obtained.

14. See for instance Keeler, op. cit., pp. 107-17 for a description of the structure of the airline industry.

15. For the detail covering the domestic aviation policies between the beginning of 1975 and approximately mid-year 1979, consult Biography of Important Civil Aeronautic Board Regulatory Actions, op. cit. This section of the chapter presents an outline of the major changes.

16. CAB Order 71-8-91 (August 19, 1971). See Douglas and Miller, op. cit., p. 129, and George Eads, "Airline Capacity Limitation Controls: Public Vice or Public Virtue?" in American Economic Association, Papers and Proceedings of the Eighty-sixth Annual Meeting, 1973, American Economic Review, Vol. 64, May 1974, pp. 365-71.

17. CAB Order 73-10-110 (October 31, 1973). See Douglas and Miller, op. cit., pp. 133-134 for a discussion of this agreement.

18. See Sam Peltzman, "A Survey of the Findings of the Economic Literature on C.A.B. Regulation prepared for the Senate Judiciary Subcommittee on Administrative Practice and Procedure." Prepared statement presented at the Kennedy Hearings, op. cit., pp. 2265-84.

19. This is essentially the interpretation of the workings of the industry presented by such researchers as Douglas and Miller, Kahn, Keeler and Levine. See Keeler, op. cit., pp. 95-107 for a comparison and summary of their analysis.

20. See Theodore E. Keeler, "Airline Regulation and Market Performance," Bell Journal of Economics, 3, Autumn 1971, pp. 399-424, and William Jordan, Airline Regulation in America: Effects and Imperfections (Baltimore: Johns Hopkins University Press 1970). Updated

Statistical evidence of the differences between the level of air fares on interstate routes and the intrastate routes in Texas and California were produced in Simat, Helliesen and Eichner, An Analysis of the Intrastate Air Carrier Regulatory Forum: Volumes I and II (New York submitted to the U.S. Department of transportation, February 1976).

21. See Kennedy Hearings, op. cit., especially pp. 1302-05.

27. The Kennedy Report estimated the total subsidy needed to preserve service for all communities stemming from deregulation to be under $25 million per year. See Kennedy Report, op. cit., p. 67. See Keeler, op. cit., pp. 129-131 for a summary of the evidence presented.

23. CAB Special Staff on Regulatory Reform, op. cit.

24. Regulatory Reform, op. cit., attachment page 2 of 5 pages.

25. Regulation, PS-80.

26. Order 77-2-133.

27. Order 77-3-80.

28. See Biography of Important Civil Aeronautic Board Regulatory Actions, op. cit., pp. 26-30.

29. Order 78-3-106; Amdt. No. 59; Docket Nos. 31290, 3091, Part 33, Statement of General Policy, Summary.

30. PS-80, Ibid., p. 39527, Ceiling Fare Policy.

31. Ibid., p. 39532.

32. This does not necessarily mean, however, that the actions of the Board followed this line of causality from price deregulation to entry deregulation. Liberalization of both aspects of regulation were continuing in parallel during 1977 and 1978.

33. Order 77-5-81, April 1977.

34. Order 77-12-50, December 1977.

35. Order 78-4-121, May 1978. The case originated in the complaints made by the Port of Oakland that its airport was not being utilized enough by authorized carriers. The Board was petitioned to investigate the need for new or improved air service in twenty-two Oakland markets, and was posed with the task of determining whether such services should be provided by new entry or the replacement of air carriers then authorized to serve the market.

The Board placed at issue fifteen of the twenty-two Oakland markets and then awarded multiple permissive authority in all markets:

> "We have tentatively decided to adopt, for the purposes of this case, a policy of awarding permissive, subsidy ineligible authority in each market when a need for new authority is shown, to every fit, willing and able applicant for such authority whose illustrative service proposal indicates that it is proposed to satisfy any part of that need". Order 78-4-121.

36. Order 78-7-40, July 1978.

37. For example, it was possible for a carrier to fly from New York to, say, Detroit and then on to Midway, carrying local traffic on the New York - Detroit segment.

38. Among the trunk carriers, the early supporters of reform were United and Pan Am. United stated its support for airline deregulations

before the Senate Aviation Subcommittee's Hearing into Regulatory Reform in Air Transportation, 95th Congress, 1st Sessions 1977.

United and Pan American had poor financial records. In his testimony to the Senate Aviation Subcommittee, Richard Ferris, President of United Airlines, emphasized the effect that regulations were having on the financial performance of the carriers. In the case of Pan American, the probable reason for their support was because they wished to extend their domestic route system and to obtain "fill-up" rights. As for the opposition of the other trunks, a number of reasons could be given. The most vocal opponents of deregulation were TWA, Eastern, American and Delta. The first three had poor financial records, and were among the weakest trunk carriers during the seventies. They presumably feared bankruptcy and did not interpret their financial performance in the same way as United. In contrast, Delta was the most profitable airline, an achievenment which it presumably calculated would not be substantially bettered under deregulation. Of the local carriers, Frontier and Hughes Airwest were the only two strong supporters of deregulation. The former had a strong financial record, the latter had a poor one. The commuters supported their freedom to fly aircraft holding more than thirty seats. Finally, the intrastate carriers were also supporters of deregulation largely because they saw it as an opportunity to enter interstate markets.

39. Midway Airlines, for instance, started operating out of Chicago's Midway airport with DC-9s in September 1979. This was fifteen months after the Chicago - Midway Low Fare Route Proceeding had awarded it authority. At this time it was the only carrier out of a dozen which had actually started operating.

40. An outline of the case made by the opponents of the fare changes is contained in Economic Regulation, PS-80, Amendment No. 59, Docket No. 31240, 30891. See also Alfred Kahn, A Paean to Legal Creativity, a talk before the American Bar Association, New York,

August 8, 1978, for an outline of the legal issues that emerged from the policy of multiple permissive entry.

41. In June 1978 Delta filed a case at the Washington, D.C., Court of Appeals in which it challenged the policy of multiple permissive entry. It sought to revise or to obtain a stay of order granting new right to Hughes Airwest, Frontier and Southern. Delta accused the Board of having "arrogated to itself functions of the Congress" by writing out of this Federal Aviations Act both the Board's duty to make findings of public convenience and necessity and the carrier's duty to provide service. See Aviation Daily, June 23, 1979, p. 306.

42. For a analysis of the legislative history of the various reform bills, see Lucile Sheppard Keyes, Regulatory Reform Air Cargo Transportation, 3371-7, (Washington D.C.: American Enterprise Insitute, 1980).

43. It is interesting to note the sensitivity shown toward the use of the word "deregulation" during the Bill passage through Congress. In the Senate, the Bill was entitled the Air Transportation Regulatory Reform Act, in the House, as the Air Service Improvement Act.

44. See Chapter 4, Table 4-1 for the details of the timing of the phased deregulation.

45. Section 1601 (d) A.D.A. 1978. it is interesting to note that in the House Bill, the termination date of the Board was December 31, 1982, rather than January 18, 1985, as in the ADA.

46. ADA, Ibid., S. 102(4).

47. Section 419, Small Community Air Service, ADA.

48. Under the Small Community Air Service, all cities listed on air carrier certificates on the date of enactment are guaranteed continued air transportation for ten years. If over the ten-year period the Board reviews notice of a reduction in service, it is obliged to make every effort to find another carrier to provide the essential service.

It is now the commuter carrier who will be the agents of the essential air service policy, rather than the locals, who previously received the subsidies under the CAA. In part, the ADA introduces a number of important changes to the commuter carriers. They are allowed to operate aircraft of up to 60 seats, instead of being limited to 30 seats. The commuters, however, are also subjected to mandated joint fares between themselves and certificated carriers. Before ADA such fares were voluntarily agreed to between carriers. In the sense that the commuters are also subject to the essential air services regulation, the ADA adds regulations to this class of carrier, which has previously been largely unregulated.

49. Under the Employee Protection Programme, Section 43 of the ADA, A "contraction" is defined as a reduction by at least 7½ per cent of the total number of full time employees within a 12 month period.

50. To begin service an air carrier must be first certificated by the FAA and then must conduct its flight operations and maintenance programmes in accordance with FAA approved manuals and procedures. In 1978 the FAA made three major changes to its air carrier regulations. The first was the implementation of Part 135 rule. Under this rule, all aircraft flown by U.S. air carriers, whether or not certificated by the CAB, now operate to a common regulatory standard. In the case of aircraft seating 30 passengers or less - or having a payload capacity of 7,500 pounds or less - the standard is known as Federal Aviation Regulations 135 (FARS 135). The second major revision was the FAA's issuance of special Federal Aviation Regulation (SFAR) 38. This rule establishes a single FAA air carriers operating certificate for all scheduled airline operatives. This certificate applies regardless of the type of CAB economic Authority Rule.

The third change involves the development of new aircraft airworthiness and certification standards designed to the size class of the aircraft. This had considerable significance for the commuter carriers. In its first ruling, the FAA allows existing aircraft models limited by certification regulation to a maximum size, to grow. This is provided so that the larger derivative models will meet more stringent performance and occupant safety standards. The second step of some significance for the commuters was the ammouncement of a comprehensive set of regulatory proposals for a "light transport" certification rule, known as FAR Part 24. Under FAA airworthiness standards, two classes of aircraft certification are defined. Aircraft meeting certification standards prescribed by FAR Part 23 are those with a gross weight of 12,500 pounds or less - or more recent certificated aircraft of nine passenger seats or less. Aircraft designed to a gross weight exceeding 13,500 pounds meet the more stringent and more expensive standards of Part 25. Under the new proposal the FAA has established a regulation; Part 24, for light aircraft having a maximum seating capacity of 30 seats and a gross weight of up to 35,000 pounds.

Chapter 3

The Canadian Airline Industry: Regulation and Liberalization

3.1 Introduction

The Canadian Airline industry was also subject to forces pressing for lower fare levels and a greater choice of quality of service. There has been a response to these pressures, but it has not been to deregulate the industry. Instead, the CTC has allowed a greater degree of competition between CP Air and Air Canada, and has sanctioned, sometimes reluctantly, the pricing initiatives of the competing carriers. Most of these measures started at the end of the 1970's. By the start of the 1980's substantial reductions in restrictions in charter and discount fares had been accomplished. Even so, the lower fares and wider spectrum of fares and quality of service are offered mainly to passengers on the long haul, transcontinental routes. Most passengers on the shorter haul routes have yet to enjoy such choices.

The forces acting for change and an outline of the actual changes in policy are described in section 3 of this chapter. Section 2 introduces an understanding of these developments by describing the means by which the Canadian airline industry has been regulated.

3.2 The Regulation of the Canadian Airline Industry

The economic and safety regulation of civil aviation in Canada falls within the exclusive jurisdiction of the federal government.[1] Economic regulation is administered by the Canadian Transport Commission (through its Air Transport Committee) and is separately administered from safety regulation, which is handled by the Department of Transport.[2]

There are four major elements involved in determining the economic regulation of the airlines:

(a) the statutory provisions, i.e., in the National Transportation Act (NTA), Aeronautics Act, Air Canada Act, and the Air Carrier

Regulations as they are interpreted by the Air Transport Committee (ATC) and the Canadian Transport Commission's (CTC) Review Committee in their decisions and general orders;

(b) the official policy statements issued from time to time by the Minister of Transport[3] (while the ATC is not bound by statute to take such statements or directives it appears to do so except where they may conflict with statutory provisions);

(c) Orders in Council - these take two forms: "instructions" to the ATC that vary or rescind one of their decisions, and direct changes in the Air Carrier Regulations[4] under S. 64 of the NTA; and,

(d) International agreements concerning civil aviation. These include certain international conventions and numerous bilateral agreements with individual countries.

The ATC exercises control over tariffs, licences (i.e., entry and exit), conditions of service, and mergers and acquisitions. In exercising its powers the agency operates within rather general criteria set out in the statutes. For example, in awarding licences or responding to new route applications, the ATC must determine whether the applicant has established "that the proposed ... service is and will be required by present and future public convenience and necessity" under S. 7 of the Air Carrier Regulations.[5] The Committee is also required in making its decisions to achieve the policy objective set out in S. 3 of the NTA which is "an economic, efficient and adequate transportation system making the best use of all available modes of transportation at the lowest total cost...." When dealing with acquisitions and mergers under S. 27 of the NTA the ATC must determine whether "such acquisition will unduly restrict competition or otherwise be prejudicial to the public interest." Under S. 45 of the Air Carrier Regulations, the Committee must determine that "All tolls and terms and conditions of carriage established by an air carrier shall be just and reasonable and shall always, under substantially similar circumstances and conditions, with respect to all traffic of the same description, be charged equally to all persons at the same rate."

The ATC, in some instances, imposes detailed restrictions on licenses or amendments to licenses, i.e., it may specify frequencies, intermediate stops, equipment. It has the power to suspend, cancel or amend any licence if established public convenience and necessity so requires under S. 16.9 of the Aeronautics Act.

Fares are regulated by a "filing process," i.e., the fares filed by a carrier with the ATC go into effect in 30 days unless the ATC requires a hearing and amends the tariffs filed. The hearing may be prompted by the actions of other carriers or other intervenors or simply by the ATC itself.[6] The ATC can deny the tariff and make a substitute.

The air transport network consists of three types of carrier: the national Airlines (Air Canada and CP Air), the regional airlines (Eastern Provincial Airlines, Nordair, Quebecois, Trans Air and Pacific Western Airlines) and the local service airlines (such as Great Lake Airlines and Time Air). Except for the period July 14, 1958 to November 4, 1963, Canada has exercised detailed economic regulation over even the very small, "bush" level airlines.

There exists a quite well-defined federal government policy toward regional air carriers.[7] In its various policy statements, the government has specified that regional carriers are to operate local or regional routes to supplement the domestic mainline operations of Air Canada and CP Air and to provide scheduled service to the north. The regionals are not to become directly competitive on a substantial scale with the two national carriers. Each of the four regionals operates within a defined region[8] and in its own region the carrier enjoys a considerable degree of protection.[9] On quite a number of routes the regionals have a monopoly. The national carriers are expected and may be required to accommodate a regional on routes that they both serve. The regionals have been encouraged to develop into both international and domestic charter carriers so long as charter operations do not overshadow their own scheduled service operations.[10]

In contrast, there has been no government policy statements concerning the local service or third level carriers -- although such a policy has been promised for some time.[11] In effect, the third level carriers are quite a "residual" in terms of formal policy making. Over time, however, the Air Transport Committee has developed a definable policy concerning the relationship between regional and local service carriers.[12] In general, it is that where a local service carrier has developed a market and a regional wishes to enter and say offer lower fares or to significantly expand its activities in that market, it will not be allowed to do so if it imperils the financial viability of a local service carrier that has done a good job of developing and serving the market.[13]

Decisions (on both fares and entry) of the ATC are subject to appeal to the Federal Court of Canada on questions of law or jurisdiction. On questions of policy "the Governor-in-Council may at any time, in his discretion, either upon petition of any party, person or company interested, or of his own motion, ... vary or rescind any order, decision, rule or regulation of the Commission..." under S. 64 of the NTA. In addition, under S. 25 of NTA, an applicant or an intervener for a licence under the Aeronautics Act may appeal to the Minister of Transport from a decision of the Commission.[14]

Until very recently, Air Canada, as "the chosen instrument" of public policy, was not subject to the same licensing powers of the ATC (and its predecessors). Air Canada's routes and services were determined under a series of contracts between the airline and the federal government under the so-called "Air Canada Contract."[15] It was not until the new Air Canada Act, 1977 came into effect early in 1978 that the largest airline in Canada was put on the same footing with respect to the regulatory authorities as all other carriers.

Scheduled international operations of Canadian carriers are governed by the nation's participation in international treaties (e.g., the 1944 Chicago Convention; Warsaw Convention, etc.) and by approximately 30 bilateral agreements with various nations.[16] For example, the Air Transport Agreement between Canada and the United States was signed in

1966 and then amended in 1974.[17] Under the 1974 amendments, Canadian carriers were granted 17 new transborder routes (14 of which were awarded to Air Canada). Transborder charters operations by Canadian and American carriers are governed by the Canada-U.S. Non Scheduled Air Service Agreement signed in 1974.[18]

The federal Department of Transport (Canadian Air Transportation Administration) operates all the major airports with the exception of those at Cranbrook, Edmonton Municipal, Dryden, Sudbury and Hamilton[19], and has a monopoly on the supply of these airport services. It is an unregulated monopoly in that there is no process of public review of the charges such as landing fees and rentals or the regulations applied to regulate its principal tenants -- the airlines -- by the Minister of Transport under the Aeronautics Act.[20]

3.3 Recent Regulatory and Policy Developments

The economic regulation of commercial aviation in Canada developed within the context of three broad policy phases. In the first, from 1936 to about 1960, the regulators and the government were concerned almost exclusively with developing a large network of reliable, scheduled passenger services. The principal beneficiary was the business traveller, for whom the price was far less important than the quality and frequency of service. To this end Trans-Canada Airlines, Air Canada's progenitor, was given a protected position, such that it had a monopoly on the mainline transcontinental routes until 1959.

A second phase developed in the 1960's. As the airline industry and its regulators began to recognize the existence of a quite different market -- charter air travel -- economic regulation focused on maintaining the separation between charter and scheduled services. The discretionary traveller, who was often on vacation, was more sensitive to the price of the ticket, and lower-priced air travel became part of complete holiday package. International charter regulations were changed, under carefully restricted conditions, to accommodate these developments. Regulations were imposed to prevent those who would normally take a scheduled flight from flying on charters at about half the regular fare. More liberal charter regulations were introduced gradually after 1974, but the regulators, at the insistence of the scheduled carriers, required that the new lower-fare services not impinge adversely on the extension and profitability of scheduled services.

In the third phase of air carrier regulations, which began in the mid-1970's, the restrictions on both domestic and international charter operations were further reduced, and charter class fares were permitted on scheduled flights. Many of these fares are still subject to restrictions such as advance-booking and minimum-stay requirements. These restrictions exclude most, but not all, business travellers -- who comprise two-thirds of the national and regional passengers[21] -- but at the same time they encourage discretionary travellers to fly more often in response to the low fares. Another development was the easing and eventual elimination of all restrictions on CP Air's capacity to compete with Air Canada on the transcontinental routes.

Since the mid-1970's, a number of changes in the regulation of, and public policy towards, civil aviation in Canada have further reduced the statutory or policy constraints on competitive behaviour. But before describing these changes in more detail, it is useful to outline the various forces and events that helped to shape them.

3.3.1 The Need for Change

Pressure to liberalize the regulatory system sprang up during the 1970's from both domestic and international sources. On the domestic front, CP Air[22] sought to expand both its Canadian and international operations, campaigning vigorously to end restrictions on the amount of capacity it could offer on the transcontinental routes in order to engage in "head-to-head" competition with Air Canada.[23] As the market for air travel expanded, it became evident that Air Canada was financially strong enough to cope with a greater degree of competition.[24]

In addition, Wardair, primarily a charter operator and Canada's fourth largest air carrier in terms of total revenues consistently criticized what it called Canada's "overly restrictive" pattern of regulation.[25] When regulatory changes were too slow in coming, Wardair, faced with mounting losses as a result of heavy investment in large, long-range jets, pressured the Air Transport Committee to change the rules.[26]

Travellers also pushed for less restrictive regulation in the late 1970's. The Consumers' Association of Canada intervened in the proceedings of the Canadian Transport Commission to oppose the rapid rise in scheduled domestic air fares, which increased seven times between May 1975 and March 1980.[27] The Association pointed to the far cheaper fares for international charter travel, claiming that they encouraged Canadians to take their vacations abroad and contributed to the nation's large adverse balance of payments on the travel account.[28]

In the international arena, competitive developments in the latter part of the 1970's in the lucrative North Atlantic market encouraged the airlines and the authorities in Canada and the United States to loosen their regulations affecting domestic transcontinental travel. The introduction of Laker Airways' scheduled, no-frills daily "Skytrain" service between New York and London in September 1977, which cost 40 per cent of the regularly scheduled economy fare, triggered a North Atlantic air fare war. This development curbed the power of the International Air Transport Association (IATA) to maintain its long-term cartel policy over international air fares, which usually carried the unanimous support of member airlines. With domestic transcontinental fares higher than the charter and discount scheduled fares on the North Atlantic, questions arose about whether the Canadian and U.S. regulatory agencies were operating domestic air travel cartels. The U.S. Civil Aeronautics Board, responding in part to these development, started to liberalize its regulations, and almost immediately widespread discount fares were introduced in the United States. Canadians, not surprisingly, asked why similar fares were not available in this country.

3.4 Regulatory and Policy Changes

In response to these pressures there have been significant regulatory modifications in the late 1970's. The new regulations and public policy have changed the role of Air Canada and altered government policy towards CP Air, eased restrictions on the operation of both international and domestic charter flights, and fostered the growth of low or discount fares.

3.4.1 The Changing Role of Air Canada and C.P. Air

In 1943 the Prime Minister enunciated the policy that was to remain in effect on transcontinental routes until 1959: "Competition between air services over the same route will not be permitted whether between two publically-owned services and a privately-owned service or between two privately-owned services".[29] As the principal "chosen instrument" of Canadian civil aviation, Air Canada had a monopoly on the transcontinental run until 1959, when CP Air was permitted by the Air Transport Committee of the CTC to increase its service until it reached one-quarter of total transcontinental capacity in 1970.

Early in 1974 the Minister of Transport announced that CP Air was to be relieved of the previous requirement that all of its transcontinental flights terminate in Vancouver or Montreal. It was argued that this change would save "significant amounts of unproductive flying ... and at the same time" ensure "adequate frequency of service by Rapidair," i.e., Air Canada's frequent service between Ottawa, Toronto and Montreal.[30] A little over three years later, in mid-1977, the Minister of Transport further reduced a number of important restrictions on CP Air's ability to compete with Air Canada in the transcontinental market. CP Air's share of transcontinental market capacity was to be increased from 25 per cent (set in 1970) to 35 per cent of the growth in 1978 and to 45 per cent of the market's growth in 1979. The airline was to be allowed to turn around at points in Western Canada on flights from Vancouver, Ottawa, Montreal or Toronto.[31] The government also indicated it would have "no objection" to CP Air being allowed to serve Saskatchewan. It had previously been restricted to Winnipeg, Edmonton and Calgary on the Prairies. The government also said it had no objection to a consolidation of the airline's several domestic licences. Finally, CP Air was to be permitted to increase its volume of mail cargo, but not so as to exceed its share of the transcontinental passenger market.

In this same year, 1977, a number of important changes were made in Air Canada's position.[32] Section 16(7) of the Aeronautic Act, which required the CTC to grant any licence required by the contract between Air Canada and the federal government, was repealed. The Air Canada contract, referred to in S. 14 of the old Air Canada Act was terminated. The Air Canada Act 1977 redefined the objectives of the airline. They were now defined as follows: "In discharging its responsibilities under this Act, the Board (of Directors) shall have due regard to sound business principles, and in particular the contemplation of profit."

In March 1979 the Minister of Transport announced that all capacity restrictions on CP Air's share of the transcontinental market were to be dropped.[33] Shortly thereafter, CP Air applied to serve Victoria, Thunder Bay, Regina and Saskatoon. A year later it announced it planned to compete with Air Canada "head-on" on the Toronto, Ottawa, Montreal 'golden triangle'."[34]

3.4.2 Reduction of Restrictions on Charters and Lower Fares

Starting in 1976, there has been substantial liberalization of domestic fares, involving the introduction of Advance Booking Charter (ABC) flights, seat sales and skybus services.

While international ABC's flights had been authorized by the ATC, effective in 1973, the first domestic ABC occurred in 1976 when Suntours offered flights between Toronto and Vancouver via Niagara Falls, N.Y. and Seattle, Washington. In December 1976 Air Canada and CP Air announced the first Charter Class Canada Fares (CCCFs) to begin in April. The terms were similar to international ABCs expect that passengers flew on regularly scheduled flights. The small number of CCCF seats sold out very quickly.

In May 1977, Suntours (Canada's largest tour operator) applied to the CTC to sell domestic ABCs[35] which would require a pre-booking period, a minimum stay and a cancellation penalty. At the investigative hearings on domestic ABCs in September the scheduled carriers argued that CCCF, ITC and "Nighthawk" fares were catering to the demand for low cost air travel.[36] In its decision on December 6, the Air Transport Committee permitted Air Canada and CP Air to offer 25 domestic ABC flights each in 1978.[37] The "fences" required were high. The advance booking period was 45 days and the minimum stay was 14 days. In January 1978, the Cabinet varied the CTC's decision and allowed more domestic ABC flights and requested the ATC to consider easing the restrictions on such flights.[38] In the meantime, the number of CCCF seats offered by Air Canada and CP from 162,636 in 1977 to 466,100 in the summer of 1978.[39]

In August 1979, Wardair, Canada's largest charter operator, was awarded a domestic charter licence despite the strong opposition of Air Canada and CP Air who argued that their CCCFs, Nighthawk and Courier fares adequately served the price-sensitive, discretionary traveller. The CTC granted Wardair only a "temporary authority" ... on an experimental basis for two years -- until October 31, 1981.[40] Further amendments to the Air Carrier Regulations were made in December 1979,[41] and in February 1980, when an Order in Council was passed. These changes went much further than the ATC in reducing the restriction on domestic (and international) charter operations. One of the changes, for instance, permitted the sale of up to one-third of seats on ABC's without any pre-booking requirement.[42]

Between the spring of 1979 and the fall of 1980 Air Canada held six seat sales, each of about six weeks duration. These consisted of "sales" of economy class return fares, reduced between 46 and 71 per cent. Long haul, both domestic and transborder, and short haul routes, were included in different sales. There were restrictions, however, imposed on terms of the sales. Typically they included an advance booking period (7, 14 or 30 days depending on the length of the flight), minimum and maximum stay requirements (3 or 7 days to 30 days), pre-payment of the full fare 7 or 23 days before departure, and a $20 or $30 fee to cancel or change reservations.

Although Air Canada had to provide cost figures to the CTC to show that the seat sale fares were "just and reasonable" and non-discriminatory, they were accepted by the CTC. CP Air, however, objected strongly to the first seat sale, arguing that the discount fares were "predatory," "short term loss-leader fares" that they were "destructive to the Canadian airline industry."[43] Although it argued that such fares were "below cost" and "a dubious marketing practice," CP Air matched the terms of Air Canada's first seat sale by offering 100,000 seats. CP Air did not match the next three seat sales although in one case it offered discount coupons on regular flights entitling passengers to a one-third reduction in a subsequent round trip. It did match the spring and fall 1980 seat sales. Nordair offered a similar "City Sale" in the spring of 1980 and CP Air offered "Totem" discount fares (35 to 45 per cent below the return economy fare) between points in B.C., Alberta and the Yukon beginning in April 1980.

CP Air's competitive challenge, however, took the form of scheduled, "no-frills" flights with all seats at discount fares on a year-round basis between Canada's major cities. The Skybus, as it became known, was modelled on Freddie Laker's "Skytrain" service. It began operations in June 1979, but the ATC only gave its approval on an "experimental basis" to the end of October. After CP Air had filed detailed information on passenger volume and its costs and revenues, the CTC later extended its approval to April 1980 and then extended it indefinitely.

Skybus fares were set initially at less than one-half the regular economy fares.[44] Passengers were limited to one piece of luggage, charged for drinks and were not served meals. While CP Air planned to offer only 72,000 Skybus seats over 7 months in 1979 (compared to 445,000 in Air Canada's first seat sale between March 27 and May 7) using B-747 aircraft, the service soon expanded. Between June and September, 1980 7 cities were served by from one to 6 flights per week. CP Air switched from one B-747 to two stretched DC-8s (carrying well over 200 passengers) which have been dedicated to Skybus service.

3.5 Summary

Many more combinations of fares and types of service are now available to passengers. In the mid-1970's there were advanced-booking, inclusive-tour, and other types of charters, but the restrictions were quite onerous. By 1980 a series of amendments to the domestic and international regulations had sharply reduced the restrictions on, and distinctions among, the various types of charters. The result has been an increase in the number of passengers travelling at fares below regular rates. The airlines do not usually release the revelant figures, but it is estimated that in 1978 close to 10 per cent of domestic passengers travelled on discount fares. This proportion is no doubt greater in 1981, although it is unlikely to exceed the rate in the United States, where travellers paying discount fares were estimated to represent close to 65 per cent of all air passengers in 1980.[45]

The increase in the number of choices offered the passenger on the North Atlantic and transcontinental routes raises the possibility of extending these alternatives to other domestic routes. It also raises the question of whether price and entry regulations might be removed entirely, perhaps along the lines of the phased deregulation initiated by the U.S. government. Such a move might not only lead to more extensive price and quality choices but also encourage additional increases in the productivity of the Canadian air transport industry. The next chapter explores this policy alternative by examining the response of the U.S. carriers to the phased deregulation introduced by the *ADA*.

Notes

1. The leading case is In re Regulation and Control of Aeronautics in Canada (1932) A.C. 54. In this decision the Privy Council upheld the federal government's authority to regulate civil aviation under its treaty power, S. 132 of the British North America Act. Inter alia, this decision ruled that the federal government had the authority to enact in the Air Regulations, 1920 provisions respecting (a) the granting of certificates or licences authorizing persons to act as pilots, navigators, engineers or inspectors of aircraft...; (b) the regulation, identification, inspection, certification and licensing of all aircraft; and (c) the licensing, inspection and regulation of all aerodromes and air stations. Thirty years later in Johannesson v. West St. Paul, (1952) 1 S.C.R. 292, the Supreme Court of Canada held that the peace, order, and good government power gave the federal Parliament the claimed jurisdiction over aeronautics. Generally, see Peter W. Hogg, Constitutional Law of Canada (Toronto: Carswell, 1977) pp. 333-34.

2. This is analogous to the roles of the Civil Aeronautics Board (CAB) and the Federal Aviation Administration in the United States, but different from Great Britain and several other countries.

3. See, for example, "Statement on Civil Aviation Policy," April 24, 1964 and June 1, 1965; "Statement of Principles for Regional Air Carriers," October 20, 1966; "Regional Air Carrier Policy," August 15, 1969; "Principles Governing International Civil Aviation," November 23, 1973; and "International Air Charter Policy," September 5, 1978. In most cases, these Statements were issued in the form of a press release by the Department of Transport.

4. An example of such an amendment was announced by the Minister of Transport on February 13, 1980. The amendments can be found in the Canada Gazette, Part II, February 27, 1980, pp. 464-78.

5. The same phrase is used in S. 16(3) of the Aeronautics Act. The term "public convenience and necessity" is not defined. The ATC in practice has examined the following factors in licence applications:
   - the operational capability of the applicant;
   - the present and projected financial capability of the applicant;
   - the operation of the proposed service on a year-round basis -- unless circumstances warrant only a seasonal operation;
   - the demand for the proposed service and the effect it may have on existing commercial air services; and
   - the degree of Canadian ownership of the applicant.

   See Canadian Air Transportation Administration, "Discussion Paper: Structure of the Domestic Air Carrier Industry (Unit-Toll Only)" (Ottawa: Department of Transport, September 6, 1977), p. 3.

6. An essentially similar process was used in the U.S. between 1938 and 1978. While the ATC can suspend, disallow and prescribe both domestic and international air fares, the Civil Aeronautics Board (CAB) in the U.S. can do so only with respect to domestic air fares. It may only suspend or reject international fares; it cannot prescribe them (see S. 1002(d)(f) of the U.S. Federal Aviation Act, 72 Stat. 73). Haanappel notes, "In practice, the policy of the ATC and the CTC vis-à-vis tariffs in general and air fares and rates in particular, has been a rather passive one. Seldom are they suspended or disallowed." Peter C. Haanappel, "Some Legal and Economic Aspects of Canadian Airline Regulation," in G.B. Reschenthaler and B. Roberts (eds.) Prespectives on Canadian Airline Regulation (Toronto; Butterworths for The Institute for Research on Public Policy, 1979), p. 146.

7. The two major statements are as follows: Hon. J.W. Pickersgill, Minister of Transport, "State of Principles for Regional Air Carriers" (Ottawa, October 20, 1966); and Hon. Don Jamieson, Minister of Transport, "Regional Air Carrier Policy (Ottawa, August 15, 1969). The policy began to emerge in "Statement by the Hon. J.W. Pickersgill, Minister of Transport, Re Aviation Policy" (Ottawa, June 1, 1965).

8. The policy statement of August 20, 1969 specified regions within which each original carrier was expected to operate. They were as follows:

Pacific Western Airlines:	British Columbia and Western Alberta
Transair:	Prairie Provinces and Northwestern Ontario
Nordair	The remainder of Ontario and Northwestern Quebec
Quebecair	Province of Quebec east of Montreal
Eastern Provincial Airways:	The Atlantic Provinces

Under the Statement of August 15, 1969 Transair (now PWA) was given access to Toronto and EPA, which operates in the Atlantic provinces, was given access to Montreal. But in general, each regional was to be confined to its own region. In Order in Council P.C. 1980-1749 (June 27, 1980) EPA was awarded the Halifax-Toronto route, a decision that appears inconsistent with the 1969 Statement.

9. The regional air carrier policy appears to have been a response following a period of instability and low profitabilities among the regionals during the early 1960's. The policy was aimed at introducing stability. Greater access to the supplementary routes of the national carriers, the possibilities of direct subsidies on specified routes in return for adequate volume of traffic and consultations with the government over jet aircraft purchases were the principal factors of the policy. See J.A. Greig, The Regional Air Carrier Study, CTC Research Branch, 1977 and K.W. Studnicki-Grizbert, "The Regional Air Carrier Problem," a report prepared for the A.T.B., Ottawa, 1966.

10. Cross-subsidization, rather than direct subsidies, increasingly became used to keep the regionals financially viable. This included domestic cross-subsidization and subsidization from the international charter operations. They also used jet aircraft, required initially for charter operations, on the low density domestic routes. See John R. Baldwin, The Regulatory Agency and the Public Corporation: The Canadian Air Transport Industry (Cambridge Mass., Ballinger, 1975), Chapter 4.

11. See, for example, Hon. Jean Marchand, "Statement on Air Policy" (Ottawa, November 23, 1973); and Canadian Air Transportation Administration, "Discussion Paper: Structure of the Domestic Air Carrier Industry (Unit-Toll Only)" (Ottawa: Department of Transport, September 6, 1977).

12. See, for example, ATC Decision No. 4029 (Ottawa: CTC, December 31, 1974); ATC Decision No. 5850 (Ottawa: CTC, June 20, 1979); and ATC Decision No. 6060 (Ottawa: CTC, February 1, 1980).

13. In Decision No. 4029 (op. cit., p. 10) concerning Nordair's application to serve the route Montreal-Ottawa-Sudbury-Thunder Bay part of which was being served by Bradley Air Services, the ATC stated: "The point the Committee wishes to emphasize to the regional carriers is that they should not expect to be allowed to ruin the legitimate business enterprise of a third level carrier by the simple expedient of filing an application." The Committee defined a number of alternatives: to allow the local carrier to expand and become a regional carrier with jet equipment; to encourage the regional to purchase the local carrier; and to have regional carriers develop local service by first using smaller propeller aircraft and then move to jets as the demand and stage lengths warrant. See also Decision No. 5850 (op. cit.) regarding PWA's application to serve Lethbridge which would have severely adversely affected Time Air.

14. Janisch notes that there are a total of five routes of appeal from decisions of the various modal committees of the CTC. See H.N. Janisch, The Regulatory Process of the Canadian Transport Commission (Ottawa: Law Reform Commission of Canada/Minister of Supply and Services Canada, 1979), pp. 97-103.

15. See Section 14 of the previous Air Canada Act (R.S.C. 1970, C. A-11). It provided that the contract shall specify, inter alia, points to be served, routes to be flown, frequencies, that "tariff charges (be) on a competitive basis with other similar transportation services in

North America," and that Air Canada provide sufficient air and ground capacity "sufficient to take care of all mail, passengers, express and other traffic offered to the Corporation for the transport." Ashley and Smails point out that Air Canada "was not... forced to develop routes subject only to the approval of the Air Transport Board, as were other airline companies. It was required to operate routes on the instruction of the government." They note, however, that "It has not been disclosed whether the government has ever given instruction against the wishes of the corporation." See C.A. Ashley and R.G.H. Smails, Canadian Crown Corporations (Toronto: Macmillan, 1965), pp. 310-311.

16. Most of these agreements follow the pattern of the 1946 air transport agreement between the U.K. and the United States, usually referred to as "Bermuda 1." The U.K.-U.S. Agreement was replaced in 1977 by "Bermuda 2."

17. Canada Treaty Series, 1966, No. 2 as amended in 1974, Canada Treaty Series, 1974, No. 18.

18. Canada Treaty Series, 1974 No. 16. Under this agreement, "Each Contracting Party shall retain the right to apply its laws and regulations with respect to ... rates."

19. The Canadian Air Transportation Administration employs about 14,000 people, most of whom work in airports providing ground and air traffic services. In June 1975 the Minister stated "There should be an objective of commercial viability, including cost recovery, both in the operation of transportation services and in the provision of facilities for direct support of transportation." At the same time, the Minister (Oct. 6/76) speaking in Yellowknife said that "transportation users in the north will not be expected to pay the full cost of developing and maintaining facilities.... We must all share the costs of opening up and developing the more remote areas of Canada."

Despite the general endorsement of the "user pay approach," only a few airports in Canada have an operating surplus, defined to include imputed interest on net assets as an expense (e.g., Malton, Dorval, Vancouver, and Calgary in 1976-77). The rest fail to cover their operating cost -- let alone recover their capital costs. Revenues are provided by aircraft landing fees, space rentals, concessions and the air transportation tax.

20. See J.J. Smith, "Those user charges," Canadian Aviation, August 1979, p. 39. Yet as Smith has noted, "The Department of Transport's position as airport landlord has been born of practical necessity. Few municipalities have sought the privilege" (p. 37).

21. Department of Transport research paper 1980, p. P3.

22. See Ronald A. Keith, Bush Pilot With a Briefcase (Toronto: Doubleday, 1972) and Gordon R. McGregor, Adolescence of an Airline (Montreal: Air Canada, 1980) Chapters VIII and XII.

23. There have been times, however, when two airlines effected agreements that restricted competition between them. CP Air, however, has consistently opposed the lessening of regulatory restrictions on other carriers. For example, it has been a strong opponent of "lowering the fences" on both domestic and international charters -- see Gregory Kane, "Canadian Consumers Learn Their ABCs," in Reschenthaler and Roberts (eds.) op. cit., and G.B. Hunnings, "Canadian Government Aviation Policy Involving CP Air," in Reschenthaler and Roberts (eds.) op. cit.

24. For example, between 1974 and 1979 Air Canada's total operating revenues almost doubled to $1.6 billion. While it suffered losses in 1974, 1975 and 1976, these were due largely to its extremely high debt to equity ratio. Despite this, Air Canada's net profits in 1977 were $20.0 million. With the conversion of $324 million in long-term debt to common shares, and its growth in operating income, the airline had net profits of $47.5 million and $55.4 million in 1978 and 1979 respectively. Air Canada, Annual Report, 1979.

25. In a speech to the Toronto Rotary Club on May 18, 1979 Max Ward stated "The CTC is dedicated to protecting the state airline operations against all possible competitors." He concluded that the ATC had "outlived (its) usefulness to the public and the industry." More generally, see T.L. Spalding, "Civil Aviation Policy in Canada and Its Effects on International and Domestic Charter Services," in Reschenthaler and Roberts (eds.) op. cit.

26. See ATC Decision No. 5785, op. cit.; ATC Decision No. 5864 (Ottawa: CTC, June 29, 1979); and CTC Review Committee Decision, File No. 63-3/79 (Ottawa: CTC, July 27, 1979).

27. The average increases in Air Canada and CP Air's domestic economy fares between 1975 and 1980 were as follows:

May 1975	10.0 percent
April 1976	9.5
September 1976	4.5
March 1977	6.5
April 1978	5.5
January 1979	5.0
September 1979	2.5 LH; 5.5 SH; 3.4 CP Air
March 1980	9.5
June 1980	2.4
July 1980	0.9

28. In the mid-1970s the tourism deficit in the balance of payments increased as the data below show. It appears to have been due to a number of factors -- cost of labour, cost of hotels, and a high exchange rate. One factor is likely to have been the high cost of domestic fares vis-à-vis international fares.

Balance of Payments on Travel Account
$ million

	With U.S.A	With Other Countries	Total
1971	194	-396	-202
1974	132	-416	-284
1975	-250	-477	-727
1976	-610	-581	-1,191
1977	-800	-875	-1,675

See Tourism - Economic Performance Discussion Paper (Ottawa: Department of Industry, Trade and Commerce, 1978).

29. House of Commons, Debates, April 2, 1943, p. 1776.

30. Press Release, Department of Transport (Ottawa, February 14, 1974).

31. Press Release, Department of Transport (Ottawa, June 28, 1977) CP Air had been restricted between 1957 and 1977 to turn-arounds at Toronto, Ottawa or Montreal in the East and in the West to points west of Edmonton and Calgary.

32. Other changes included the following:

(i) the airline was given the authority to diversify into related activities such as hotels, surface transportation, tour operation, computer reservation services, food services, and consulting services;

(ii) it was enabled to exchange part of its long term debt for equity (effective April 1, 1978 some $324 million was so transferred reducing the airline's debt to equity ratio from 95:5 to about 60:40);

(iii) ownership of the airline was transferred to the Government of Canada from the CNR.

33. Press Release, Department of Transport (Ottawa, March 23, 1979).

34. Ken Romain, "CP Air plans to take on Air Canada for share of the "golden triangle traffic," Globe and Mail, June 6, 1980, p. B1.

35. ABCs and CCCFs are very close substitutes from the travellers point of view. In the case of the former one or more charter operators leases an entire aircraft and sells tickets typically at about one-half the scheduled fare subject to an advance booking and prepayment period, minimum and maximum stay requirements, and the requirement of a round trip journey. CCCFs impose essentially the same restrictions, but are sold by scheduled carriers seeking to fill up otherwise empty seats on their regular flights. Not surprisingly, large all-charter carriers such as Wardair have sought to carry a proportion of their seats without an advance booking period so that it becomes a close substitute for scheduled service.

36. The hearings are described in Gregory Kane, " Canadian Consumers Learn Their ABC's," in Reschenthaler and Roberts (eds.) op cit.

37. ATC Decision 5369 (Ottawa: CTC, December 6, 1977).

38. Order in Council P.C. 1978-168, January 19, 1978.

39. Karl H. Laubstein, "The Necessity for Advance Booking Charters (ABCs) Within Canada," in G.B. Reschenthaler and B. Roberts (eds.) op. cit., p. 97.

40. ATC Decision No. 5904 (Ottawa: CTC, August 16, 1979). By 1979, Wardair had become Canada's fourth largest air carrier. Its total revenues had increased from $16.5 million in 1970 to $198.5 million in 1979 (Wardair International Ltd., Annual Report, 1979, 1975). Wardair had obtained a Class 9-4 international charter licence in 1961 shortly after the affinity rule for charter flights had been established.

41. S.O.R. 80-36 published in the Canada Gazette, Part II, January 9, 1980, pp. 1-17. Among the important changes were the following:

- the advance booking was reduced from 30 to 14 days; on late night flights it was reduced to zero;
- the minimum stay requirement was reduced from 6 days to the first Sunday following the day of departure;
- the sale of from 10 to 20 percent of aircraft capacity was allowed within 14 days of departure for an additional fee;
- the mixing of ABC and ITC passengers was allowed on the same flights; and
- the minimum group size for which a charter operator had to contract was reduced from 40 to 20.

42. S.O.R. 80-148 published in the Canada Gazette, Part II, February 27, 1980, pp. 464-78. The changes permitted:

- cargo ("belly freight") to be carried on passenger charters;
- passengers to change their outbound and return flights subject to a rebooking fee;
- children under 12 a reduced fare;
- sale of up to one-third of seats on ABCs without any prebooking requirement (applies to B-707, DC-10s and B-747 aircraft);
- two points of origin and two points of destination to be served by any one domestic ABC flight; and
- carriers to sell domestic ABCs through partly or wholly owned charterers.

43. Ken Romain, "CP Air protest cuts in Air Canada fares," Globe and Mail, February 27, 1979, p. B1; Patrick Finn, "War of air fares becomes battle of words," Montreal Star, March 8, 1979, p. A3.

44. For example, in June 1979 the Toronto-Vancouver fare was $94.50 as compared to $211 for the scheduled one-way economy fare. Twelve months later the Skybus fare had increased to $111 while the regular fare had increased to $238 (both plus transportation tax).

45. See Air Canada's submission to the CTC, December 1978; and Report on Airline Service, Fares, Traffic, Land Factors and Market Shares, April 1, 1980 (Washington, D.C., CAB Staff Study, No. 10, June 1980), Table 28, p. 118.

Chapter 4

THE U.S. AIRLINE INDUSTRY: THE EFFECTS OF REGULATION AND DEREGULATION

4.1 Introduction

The Airline Deregulation Act (ADA) of 1978[1] marked the ending of four decades of protective economic regulation of the airlines by the Civil Aeronautics Board (CAB). In fact it is now over two years since entry deregulation and wide fare flexibility were introduced -- and over four years since the policies of fare liberalization were launched. It is a period sufficiently long to have included substantial changes in the economy, which in turn have influences the performance of the industry, and long enough to provide observations with which to test the accuracy of the contending hypotheses concerning the behaviour and performance of the deregulated industry.

The next two sections outline the contending hypotheses concerning the effects of direct economic regulation of the industry by the CAB, and the expected effects of deregulation. Section 4.4 outlines the changes introduced by the ADA, while Sections 4.5 and 4.6 present details of the response of the carriers to the deregulation of entry, exit and of fares. The last Section presents a summary of the observed effects of deregulation and relates them to the contending hypotheses.

4.2 The Perceived Impact of Direct Economic Regulation

There were two sets of contending hypotheses as to the effects on the U.S. airlines of the exercise of direct economic regulation by the CAB. On one side there were three: the "natural monopoly," the "destructive competition" and the "cross-subsidization" hypothesis. On the other there was the "nonprice rivalry hypothesis."[2]

The natural monopoly hypothesis was based on the understanding that economies of scale exist in the industry, and that without fare regulation, a monopolist would emerge, able to charge high and discriminatory fares.[3] The regulation of fares was thus justified on the grounds that it resulted in fares which were lower and output which was greater than would have been established and produced by an unregulated, profit maximizing monopolist. A more recent "version" of the natural monopoly hypothesis, and one which argues for entry regulation, is the "sustainability" hypothesis.[4] It suggests that the monopolist, despite its power and possibilities of changing discriminatory prices, may be unable to establish prices which preclude profitable opportunties for a competitor to enter and to "skim the cream". The demand curve, for instance, may intersect the monopolist's average cost curve beyond its minimum point. It may be that the prices established by the monopolist to serve all the demand could be undercut by a cream-skimmer able to operate at minimum average cost because it is not required to provide year-round, regular service. Without entry regulation, therefore, it is possible that a repeated, disorderly process of price-cutting, re-entry and then exit could ensue, leading to undesirable interruptions in service.

The destructive competition hypothesis is based on the observation that the industry is subject to high variability in the demand for its services, and that cost structures of the carriers are characterized by high fixed to variable costs. Under such conditions, excess capacity could be created as a result of a sharp contraction in demand. Fares would fall below average cost, causing losses and interruptions of services as carriers went out of business. During the ensuing price-cutting, the possibility of carriers reducing their safety standards in order to lower there costs is increased. These undesirable outcomes will persist if capital and labour is immobile and unable to move out and reduce the excess capacity in the markets. Regulation of price and entry, it is argued, has prevented wide fluctuations in price and quality and sustained losses by the carriers.

The cross-subsidization hypothesis is based on an understanding that regulation restricts the competition faced by carriers on certain routes, allowing them to cross-subsidize their loss making routes. This internal cross-subsidization in turn provides communities with a level of service which they would either be without altogether, because no carrier would find it profitable to serve, or at a level and a price which would be superior to that provided by a carrier unsupported by an internal subsidy.

In sum, direct economic regulation of the industry, according to the destructive competition argument, resulted in higher rates for the carriers, a reduction in bankruptcies, a greater quantity of services and a narrower ranges of price levels. According to the natural monopoly hypotheses, regulation of price and entry have resulted in lower fare levels, lower carrier profits, more services and more reliable and safer services. The cross-subsidization hypothesis suggests regulation resulted in higher quality and lower priced services to small communities.

In contrast, the nonprice rivalry hypothesis suggested the airline industry was structurally competitive. The regulation of entry and fare competition among the interstate scheduled carriers, had, however, caused carriers to rely on nonprice competition. The timings and frequency of flights, seat configurations, meals and equipment were some of the means employed in this competition. As Douglas and Miller[5] showed, so long as carriers could increase their revenue by adjusting their services, they would do so, up to the point where the costs of the increase in quality of service equated with increased revenue. In this way competition in the quality of service acted to bring the costs of carrier operations up to the level of regulated fares.[6]

Comparisons of the costs incurred, the prices changed and the quality of service offered between regulated and the (largely) unregulated intrastate carriers in California and Texas, suggested that costs, prices and the quality of service were lower in the latter.[7] Induced by the regulation of the CAB, the combinations of more frequent flights, lower seating densities and lower aircraft utilization would appear to have accounted for some considerable amount of interstate carriers's high unit costs. The security afforded the incumbent carriers by the regulation of entry and the likelihood of merger[8] in the event of financial failure, provided the leverage by which the costs of some inputs were driven up.

This protection also allowed the carriers to raise a high proportion of their finance in the form of long term loans. Although part of this debt was secured by mortages on aircraft, much was secured by the economic value of their route certificates.

The CAB controlled both the total number of trunk carriers[9] and the number of carriers on any specific route.[10] This reduced the choices available to passengers and was seen to have led to economic inefficiency. Entry restrictions may have resulted in a more efficient than average carrier being denied the chance to serve passengers and so causing them to forgo opportunities. The restraint on the number of carriers may also have denied choice to passengers if carriers experienced constant returns to scale at levels of output which were low relative to the size of the market.

As a result of regulation by the Board and the consequent competitive behaviour of the carriers, passengers were seen to have been provided with services of a high quality but also at high prices and at high costs of production. There was evidence, however, from unregulated markets, that many passengers, where free to choose, preferred lower prices and lower qualities of service.

The restrictions on exit, particularly on the routes operated by the locals, often meant equipment was inappropriate for the routes and inefficiently operated. The restrictions placed on licenses increased the costs of carrier operations. Similarly, the costs of litigation were raised by the proceedings involved in obtaining route certificates.

In sum, according to the nonprice rivalry hypothesis, regulation resulted in competition which served to keep costs and prices higher, and passenger demand lower, than if there had been no regulation.

4.3 The Predicted Effects of Deregulation

The natural monopoly hypothesis predicted that with the removal of price regulation, the level of fares would increase, the fare structure would become discriminatory, there would be contractions in demand but increases in carrier profits.[11] A variant of the natural monopoly hypothesis, the sustainability hypothesis,[12] in contrast, suggest deregulation would result in a succession of carriers challenging by means of price cutting, a rapid rate of entry and exit, possibly resulting in interruptions in service.

The destructive competition hypothesis predicted that if the industry was deregulated, competition between the carriers would lead to fares falling below the variable costs of many carriers, prolonged excess capacity, lower profits for carriers, many bankruptcies and reduced safety. A statement issued by Airport Operators Council Internationl (AOCI), representing airport managers throughout the U.S., predicted such an outcome:

> "Although the theoretical supposition underlying the approach (deregulation) is that such fare competition would result in lower fares and traffic stimulation, it can also be expected that some carriers would either not be economically able to match lower fares offered by competitors and be forced from markets, or would attempt to match the lower fares with a resulting deterioration of service, safety and economic viability. Under such conditions, carrier bankruptcies would pose serious economic problems for all sectors of the aviation industry, including airport operators."[13]

The prediction that there would be disruptions of service to small communities following deregulation was made by a number of representative of the industry, including the Air Transport Association of America, which presented its case at the Kennedy Hearings [14] and by Mr. Donald J. Lloyd-Jones, of American Airlines:

> "... service to small cities today is provided through a carefully contructed fare structure which provides earnings on long-haul routes sufficient to make it economically practical for airlines to serve shorter, less densely travelled routes in order to develop connecting long-haul traffic. Under the proposals of the Aviation Act of 1975 these most profitable long-haul routes will inevitably be the first target of added competition, thereby destroying the economic framework of the air transportation network as it is known today."[15]

Predictions that there would be disruptions in service to small communities were based on two premises: that incumbent carriers charge higher prices on more profitable routes to cross-subsidize their less profitable small community routes, and that smaller carriers are unable to profitably serve such communities.

The Kennedy Report opined that cross-subsidization was small in amount, such that trunk carriers were estimated to "fly no more than 100 to 150 routes -- most of them short and infrequently travelled -- that they would like to abandon."[16] As to the premise that smaller carriers were unable to profitably service smaller communities, a Department of Transportation study[17] in 1976 showed that where routes had been abandoned by the scheduled carriers, in most instances they had been replaced by unregulated commuter carriers.

According to the nonprice rivalry hypothesis, regulation by the CAB was seen to have resulted in a fare structure which provided a limited choice of fares and a level of fares and quality of service which were higher than many passengers were thought to prefer. The removal of fare and entry regulations were expected to result in a widening in the choice of fares and quality of service, and to cause a drop in the level of fares The agents of these changes were to be the carriers, some new to the industry, who would enter and compete on the route system. The existence, and the threat, of unrestricted competition in fares and quality of service were expected to result in productivity increases which in turn would be passed on to the passengers in the form of lower fares.

While the average level of fares was expected to fall, the resulting level of fares on individual routes will reflect the mix of quality of service and price desired by the passenger and the cost of providing this mix by the most efficient carrier. The movements of fares, scheduled frequencies and load factors will depend on both the fare and scheduled (waiting time) elasticities of the passengers, the carrier's cost function and the level at which fares are regulated. Fare reductions which stimulate demand involve additional costs, even if capacity is held constant. Lower fares will require higher load factors to cover costs.

Whether added capacity, and perhaps increased frequency, result from the lower fares, will depend on the increase in total revenue, and hence on the price elasticity of demand, and whether this exceeds the increase in total costs. On routes where the price elasticities are low, and increased revenues insufficient to meet increases in total costs brought about by changes in capacity, the carrier will have to reduce frequencies and increase load factors where fares are reduced.[18]

The markets expected to experience lower fares, increased load factors and increased frequencies were the high density routes on which a large number of passengers travel for non-business purposes, i.e., the discretionary travel markets. The price elasticities are highest for this group of travellers. Scheduled frequencies are higher on denser routes and the inconveniences of high load factors are less than on routes that are infrequently served. Markets on which three or more carriers compete will probably experience substantial competition in fares, for collusion or closely coordinated behaviour is less likely than when there are two competing carriers. Routes with contrasting characteristics, with lighter traffic and higher proportions of passengers travelling for business purposes, will probably to have demand and supply elasticities which result in only small reductions in fares.

4.3.1 Expected Changes in Structure

The structure of the industry in an unregulated environment will depend on the emergence of the dominant technical characteristics of the industry. One indicator of the future structure is whether, and over what range of output, economies of scale exist. Output is seen to be increased by carriers in two ways: by increasing total available ton miles and by increasing available ton miles per route-mile. The use of the former measures economies of carrier scale, while use of the latter measures the economies of density of operation.

The empirical evidence strongly suggested that once the size of the smallest trunk carrier had been reached, average costs were constant and independent of the output of the carrier. The economies of route density also appeared to be constant at the output of the smallest trunk carrier, although the evidence for this conclusion was somewhat less secure.[19] In short, the empirical evidence supported the assumption that constant returns to scale, whatever the output measure used, were constant beyond the smallest trunk carrier. Given this underlying technical structure, the removal of fare regulation and entry protection could be expected to cause fares to move and to equate with marginal and average costs. The extent of the discrimination in the fare structure, as indicated by the restrictions placed on selected fares, would diminish as the protection of the incumbent carriers was removed. The share of the market held by the incumbent carriers after the removal of the protective regulation would be indeterminate. It could expand or contract.

Such predictions were based, in part, on the understanding that the airlines produce a single service. Alternatively, carriers can be considered to produce more than one service. Viewed in this way, carriers which provide say both long-haul and short-haul flights can be considered as producing two separate products. Such considerations of air carriers as producers of multi-products introduces the technical characteristic of economies of scope.[20] A carrier experiences economies of scope when its joint production of two or more services is less costly than the combined costs of production by two or more speciality carriers. The greater the degree of scope economies, the greater the cost disadvantage of a carrier that offers fewer services.

If there are economies of scope in the production of say short-haul and long-haul services (and no economies of scale)[21], then carriers which produce these services jointly will also accrue an increasing share of the market in contrast to carriers which specialize in one type of route. The predicted increase in the range of quality of service and fares following deregulation would be provided by individual carriers, in contrast to the situation that would emerge if economies of scope did not exist. In the latter situation, individual carriers would specialize in one type of route and possibly one quality of service, and the range of services, quality and fares would be provided by a number of carriers.

The form and extent of the economies of scale and scope will determine whether there are advantages to size in city-pair markets, over carriers' entire networks or in producing one, two or more products. There may be only a limited number of carriers that could serve on a given route. Similarly, in order to survive, carriers may require a route network of a given size and of certain characteristics. Such possibilities raise two questions about the long run: what will be the number of carriers operating in the domestic trunk airline sector and, secondly, what will be the process by which a change in the number of carriers will be accomplished?

The questions refer specifically to the trunk system because the door to entry to this sector had been permanently shut. Consequently, not only could there be too few or too many carriers to reap the possible economies, there is the likelihood that stringent regulation could have impeded the realization of such economies. If there are too many, or too few carriers, of interest is the manner in which the equilibrium is to be reached. By the advent of new, competing carriers, or alternatively, if there are too many trunk carriers, by competition, financial failure of some and the merger of others?

If the carriers' economies of scale and density of operation are constant beyond the smallest carrier, then mergers cannot be expected to result in either substantial increases or decreases in costs. Hence, a strong motive for mergers in such an industry in which fares are also regulated and new entrants are excluded, is the acquisition of higher returns by eliminating competition. Such a motive would disappear with the removal of entry barriers and pricing regulations. Internal expansion would be more attractive than horizontal integration by means of merging. The possibility of reaping monopoly gains by undertaking parallel mergers would disappear as the carrier would be unable to maintain the gain because of the freedom of carriers to enter and compete.

If there are economies, say economies of density of operation, and if the number of carriers that could profitably compete is less than the number of existing trunks, then competition would eventually result in the elimination of the "excess" carriers. The competitive process on the routes with too many carriers could result in short-run excess capacity and temporarily very low fares. Some of the losing carriers could go bankrupt and disappear; others could become carriers in different markets.

The financial structure of carriers will change as the protection afforded them diminishes with deregulation. Without the Board's protection of their earnings and the security of their capital, carriers will be faced with lenders seeking substitutes for the security of the value of carrier route certificates. They can be expected to wish to see more internally generated funds and more equity before providing long term loans. As a result, the carriers' debt to equity ratio will decline. The reduction in protection will also influence the value of the services of organized labour. The rents they may be receiving will be reduced as the threat of lower prices from competing carriers becomes a reality.

4.3.2 The Dynamics of Change

The predicted directions of the movement in fare levels, quality of service and productivity by the respective hypothesis as a result of deregulation were unambiguous. The extent and the timing of the movement in fare levels and quality of service were less precisely predicted.

The underlying cause of this imprecision reflects the fact the industry is subject to changing and unpredictable conditions which can strongly effect the performance of the industry. The industry's equipment cycle, the performance of the economy, and the price of oil are all independent of the process of deregulation, but they can have substantial impacts on the carriers behaviour and the industry's performance.

The movement in fare levels and quality of service will depend in part on the levels of fares under regulation and the prevailing conditions of demand at the time of deregulation. Air services are perishable and carriers respond in the sale of these services to shifts in demand. Changes in the economy are swiftly translated into changes in the demand for air travel. The form, or the absence of regulation, however, can be expected to influence the incidence and the extent of these fluctuations. With no entry or price regulation, new opportunities to operate profitable routes will result in surges of investment and traffic growth. The absence of price regulation and the presence of fluctuating investment will lead to fluctuations in the rate of change of prices. This will tend to stablize load factors, but to destabilize profits.[22]

4.4 Deregulation, Reregulation and the ADA

Unlike the Civil Aeronautics Act of 1938[23], which viewed competition only "to the extent necessary" to develop the air transportation system, the ADA actually encourages competition and places "maximum reliance on competitive market forces and on actual and potential competition (a) to provide needed air transportation systems and (b) to encourage efficient and well-managed carriers to earn adequate profits and to allocate capital."[24]

The intention of Congress, however, appeared to be that the industry should not be immediately subject to the unregulated market, for there were some fears that unrestricted, incumbent carriers would exploit their temporary market power by either raising fares or pursuing predatory pricing policies. In consequence, the ADA contains provisions designed to increase competition in a way which eases the transition from a regulated to a competitive industry. The view appeared to be that if fare deregulation were removed simultaneously with -- or before -- routes were open to competition, incumbent carriers would be presented with too much market power. As a result the Board was authorized to set the standard industry fare level, around which an unregulated fare one was established, until the end of 1982. The regulation of entry was initially scheduled to disappear at the end of 1981. In order to achieve an "orderly" transition to the unregulated market, there were also provisions in the Act which were designed to provide immediate -- but limited -- entry of carriers in certain markets. Section 401 of the ADA included four provisions which were varyingly designed for such an objection. They were; the automatic market entry programme (AME), section 401(d)(7), dormant authority, section 401(d)(5), stationary fill-up rights, section 401(d)6 and the expedited "show-cause" procedures, under the directives of section 401(P).[25]

The AME programme was designed to increase competition by opening entry so that carriers could acquire route authority with a minimum of delay. Under the provision, each carrier that held a certificate for the entire preceding year could apply for one nonstop route authority between any pair of points in the first month of 1979, 1980 and 1981.[26] Incumbent carriers, however, could also protect one market from automatic entry by another carrier, and indeed, the AME programme was distinguishable from the other entry provisions by its restrictiveness. The dormant route authority, for instance, mandated the grant of authority on a first-come basis in markets where a carrier was authorized to serve, but was not currently serving.

The AME and the automatic entry provisions, however, were reduced in importance as the Board brought toward the date of entry deregulation. The ratification, in the ADA, of the policy of multiple permissive entry, which was established in the Instituting Order in the Oakland Service Case in April 1978,[27] effectively removed the Board's selective control over carriers' entry on to routes. A carrier applying to enter a route has to show that it is "fit, willing and able," and in contrast to the provisions of the 1958 FAA, the opponent of the application has the burden of showing that the services provided by the applicant are "not consistent with public convenience and necessity."[28] Under the initial schedule, entry control, except for the condition of fitness, was to end on December 31st. 1981. In its Show Cause Order (D-32315) in January 1979, the Board in effect reduced this period by almost two years, when it proposed to grant multiple entry to all fit applicants utilizing standardized policy findings. This became effective in April 1979. The competitive force of such a policy comes when the Board grants route certificates to more carriers than can serve a route profitably. The Board, in effect, removes itself from the control over the selection of carriers for a route. In the place of regulation comes a process of selection based on the relative economic strength of the contestants.

The ADA introduces changes which influence carriers' decisions to reduce or to terminate services (see Table 4.1). Under section 401(j)(i) of the ADA, carriers may terminate service at a point by filing a notice with the Board and the effected interests 90 days prior to the termination. This is a departure from the provisions of the 1958 FAA in that it allows carriers to terminate service without awaiting the outcome of what were sometimes lengthy and expensive adjudicatory procedures. It may be, however, that the Board will require an incumbent carrier to continue to serve the point for 30 days if the Board determines that an "essential air service" is involved under section 419 of the ADA. Under section 401(j)(2), carriers are also free to eliminate the last nonstop and last single-plane service in city pair markets upon the filing of a 60-day notice. In a sense, this introduces a more stringent requirement than operated under the 1958 FAA. Under the latter, carriers were not required to seek Board premission nor were they requested to notify the effected communities, unless the level fell below a very low minimum required by their route certificates.

A major goal of the ADA is "the maintenance of a comprehensive and convenient system of continuous scheduled air service for small communities, and for isolated areas with direct federal assistance where appropriate."[29] Accordingly, under the small Community Air Service Programme of the ADA, all communities listed on air service certificates on the date of enactment (October 31, 1978), are guaranteed service for 10 years. For each of these communities the Board is directed to establish the level of essential air transportation, "which is defined at a minimum, or the lesser of either two daily round trips, five days a week or the level of service actually received during 1977." Under section 419, the 30 day period of continued operation of a carrier may be extended indefinitely, subject to the availability of federal subsidies, until a substitute carrier is ready, willing and able to supply at least the minimum level of essential air service. Under section 406 of the 1938 Civil Aeronautics Act the CAB had been authorized to subsidize the transport of mail. Over the years, the subsidies became directed at supporting services to small communities. Only certificated carriers, however, could receive the subsidies. In contrast, the subsidy programme

Table 4.1

Summary of the Form and Timing of Deregulation and Regulation

Regulation		
Entry	**Form of Deregulation and Regulation**	**Timing**
Entry Deregulation	The Board shall issue a certificate if it finds the applicant fit, willing and able, and if such transportation is consistent with the public convenience and necessity. The opponent of the application has the burden of showing that such air transportation is not consistent with public convenience and necessity.	Initiated in the Oakland Service Case, Instituting Order April 1978, and ratified in the 1978 ADA of Oct. 1978. Entry deregulation scheduled to be completed by Dec. 1981. Show Cause Order (D-32315), however, resulted in effective entry deregulation in April 1979.
Automatic Entry Programme	One route certificate granted to interstate carriers. Incumbent carriers allowed to protect one route.	1979, 1980 and 1981.
Dormant Route Authority	Carriers allowed to operate certificates on routes which fail to have a minimum five round trips for 13 out of any 26 week period.	Started October 1979.
Close Door Restrictions	Removes the prohibition on interstate overseas carriers from providing local passenger services.	Started October 1979.
Operating Market Restrictions	The Board removes intermediate-stop restrictions from U.S. Airlines' domestic routes. The first stage removes all long-haul restrictions. The second substitutes one-stop restrictions for all multi-stop and single-plane restrictions. The third stage eliminates all operating restrictions in monopolized and minor markets (less than 7,300 O & D connecting passengers a year).	Completed in four phases: August 1979; December 31, 1979; June 30, 1980; and December 31, 1980.
Exit	No air carrier holding a certificate can terminate or suspend all air transportation or reduce its service below that which the Board has determined to be essential air transportation (see below) unless such a carrier has first given the Board at least 90 days notice. The Board may, by regulation or otherwise, authorize such temporary suspension of service as may be in the public interest. If a carrier wishes to terminate or suspend non-stop or single-plane air transportation and if it is the only air carrier so certificated, at least 60 days before such action is taken the carrier has to file its intention with the Board.	October 1978
Standard of Service		
Small Community Air Service Programme	Essential Air Service defined as at least two round trips daily, Monday to Friday, and a total of two round trips for the remaining two days. Service will have to be sufficient to accommodate up to 40 passengers a day (Monday - Friday) to and from the hub, at a 50 percent load factor.	Communities receiving certificated service or whose service has been suspended on Oct. 24, 1978 will receive essential service for ten years. Communities that have lost air service since July 1968 are to become eligible for the programme after 1980. December 1985 Local Service Subsidy ends. November 1988 Government no longer obligated to set and guarantee essential service nor to provide subsidies.
Air Fares		
Trunks	Unregulated fare zone established. The ceiling set by the standard industry fare level which can be adjusted every two months by the Board. Carriers on routes on which they carry 70 percent or more can raise fares five percent above the standards. Carriers operating on routes on which four or more carriers have authority can raise fares by ten percent. Carriers can reduce fares below the standard industry level by 50 percent without Board approval.	The fare zone started on July 1st, 1979 and continues until December 31, 1982.
Locals	Locals set an upward fare zone of 130 percent of the standard industry fare level.	October 1978 - May 1980
	Routes less than 200 miles were not subject to upper fare limits. The limit for routes of 201 to 400 miles were set at 50 percent of the standard industry fare level. For longer routes the limit was 30 percent.	May 1980 - September 1980
	Upward limit set at $15 plus 30 percent a year above the cost-based fare level.	September 1980
Commuter Carriers	Joint fares between commuters and scheduled carriers mandated.	Started in 1979 and expected to be phased out by January 1st, 1983.
Fare Deregulation	The Board discontinues its fare regulation.	December 31, 1982.
Regulation by the Board	CAB is dissolved. The remaining functions to be absorbed by other agencies.	December 31st, 1984.

contained in section 419 is such that commuter carriers who can prove they are "fit, willing, and able" to provide the service are eligible. Unlike the programme under 406, which assessed a carriers' system-wide operating costs against revenues when determining the amount of subsidy, payments will only be made on a route-by-route basis. The objective appears to be to reduce the overall level of subsidies by allowing the locals to leave points which can then be served by lower cost commuter carriers. In order to facilitate this substitution the ADA also allows the commuter carriers to operate larger capacities of aircraft and to have access to the federal loan guarantee programme for new and used aircraft.[30]

The small community air service programme is also an indication that the ADA does not let the unregulated market determine completely the pattern and level of services, for the "essential" levels of service are guaranteed for a decade. This provision is similar to that which provides for the compensation of airline employees in the event of their unemployment as a result of deregulation.[31] Both measures are designed to cushion Congress' perceived incidence of the adjustment costs resulting from deregulation.

The ADA also introduces changes with respect to anti-trust policies. The authority of the Board under sections 408, 409 and 414 of the ADA are to be tranferred to the Department of Justice on January 1, 1983. This date is of some significance, for the decisions concerning mergers and predatory pricing are likely to be of major importance to the workings of the competitive industry since the direct controls on fares and firm entry will be removed. Under the 1958 FAA the Board had the power to approve air carrier mergers, the establishment of interlocking directorates among air carriers and other firms in the aviation industry, and agreements affecting the provision of air transportation. Section 408 of the FAA allowed the Board to approve a merger unless "it will not be consistent with the public interest" or would "result in a monopoly or monopolies and thereby restrain competition or jeopardize another air carrier not a party" to the merger. Section 414 of the FAA provided that the anti-trust laws should not apply to persons affected by the CAB orders issued under the merger, interlocking directorate, and agreements section of the Act to the extent "necessary to enable such persons to do anything authorized, approved, or required by such order."[32] In secton 408(b)(1) of the ADA concerning the powers of the Board with respect to mergers and control, the Act stipulates that in considering any merger proposal it should meet the standards of what in effect is section 7 of the Clayton Act.[33] Hence, in effect, since 1978 the carriers have been subject to provisions of the Clayton Act. Between 1978 and 1983, during which the direct controls on fares and entry will be being released, authority resides with the Board and not with the Department of Justice.

In sum, the ADA did not introduce immediate and complete deregulation. Nor did deregulation start in October 1978. There was an earlier liberalization of the Board's fare policy. In February 1977, it authorized Texas International's "Peanuts" fares. These were promotional fares, set at 50 percent below coach fares.[34] American followed with its "Super Saver," but like the Peanut fares and most of the fare reductions which followed, they were discriminatory in that they were of limited applicability.[35]

In view of this earlier price liberalization and the phased deregulation of the ADA, a relevant question is how will this form of deregulation influence the movement and timing of the predicted changes resulting from complete and immediate deregulation assumed in the hypothesis?

The estimates of the deviation between the standard coach fares and the expected fares resulting from deregulation conducted in the mid-1970s by Miller[36] and Keeler,[37] suggest the floor of 50 percent below the standard fare level would be sufficiently low to allow for most of the drops in fares they expected from deregulation. These drops in fares, however, were expected to occur to fares which were unrestricted. The evidence prior to October 1978 was that the fare reductions applied primarily to restricted, discriminatory excursion fares. The existence of almost unrestricted entry under the ADA, however, led them to expect substantial drops in coach fares.

There are two further factors which need consideration when interpreting the direction and timing of the movement in fares. They are the possible difficulty of new entrants being able to enter airports and secondly the points in the industry's and the economy's cycle at which the changes in regulation occur.

Incumbent carriers could enjoy advantages denied new entrants in that they have ready access to the nation's airports. At many of them they hold long-term contracts and they often constitute the operating committees which allocate the airport slots. The incumbent carriers could use their control over the airport slots to block the entry of competitors. The possibilities of such blockages are greatest at those airports which are already experiencing congestion at peak hours.

The second possible constraint on carriers behaviour is the industry's re-equipment cycle, for the year of 1978 was one in which the carriers were faced with decisions to replace their older aircraft. Of the turbo jets in operation in 1978, 65 percent were 9 years or older.[38] Furthermore, regulations applied to noise levels effectively passed the "death sentence" on the older jets. At the end of 1978 the certificated carriers had orders for 393 aircraft, in contrast to the 178 on order at the end of 1974.[39] The year of the ADA clearly occurred at a time when the carriers were engaged in the re-equipment stage of their cycle. It also occurred during a year in which oil prices rose by 80 percent.

The effects of these constraints on the course of entry of carriers also has implications for the Board's policy with respect to mergers. During this transition towards unregulated competition, the impediments to entry could provide the possibilities of monopoly profits. Carriers could be attracted to engage in horizontal integration by means of mergers to capture these profits. When fully competitive other issues will emerge involving mergers, such as whether there are economies which can be effectively captured by mergers. In the meanwhile, in this transition to competition, the Board in deciding on merger cases will have to discern the effects of constraints on the ease of entry and the effect of this on the resulting outcome of the merger.

The industry's cycle and the oil price increases were independent of the process of deregulation, yet they have probably influenced the responses of the carriers during these early stages. They raise questions as to how they influenced the extent and the timing of the expected drops in fares. To what extent did the freedom resulting from deregulation allow the carriers to increase their productivity and so offset the cost effects of higher oil prices? Did the lack of new aircraft, and the shortage of airport slots, act to restrain carriers from entering new routes? These factors have to be considered when examining the predictions concerning the expected results of deregulation. For although the ADA introduces a phased deregulation, the removal of entry restrictions and the extent of fare flexibility appear sufficient to stimulate and facilitate the drops in normal coach fares expected, for instance, by those who propound to the nonprice rivalry hypothesis.[40]

4.5 The Response of the Carriers to the Deregulation of Entry and the Changes in Exit Regulations

The process of allocating the applicants to the dormant routes was on a "first-come-first-served" basis, a method which resulted in overnight stays by airline representatives outside the CAB headquarters after the ADA had become law. After the initial rush, the count in mid-June 1979 showed that carriers had filed 913 route applications. Of these, 809 were routes which were new ones for the applicants, and 104 were protective, the latter coming largely from the trunk carriers (see Table 4.2).

Most of the outstanding 9,600 dormant routes remained in this condition, for only 160 had been entered and were in service by mid-June 1979. The restrictive automatic market entry (AME) programme also received a limited response, with only 32 markets entered by July 1979. By the end of 1980, only 54 route awards resulted from the AME programme and about 300 under the dormant authority programme.[41] The policy of multiple permissive awards met with a more ready response. Between December 1978 and July 1979, entry was granted to 416 markets. By this date, however, only 180 had been actually entered.[42] By December 31, 1980, there had been an increase in city-pair authorizations of 107,769. Much of this conferred authority, however, has not been used.[43]

In order to appreciate the magnitude of these responses to the changed entry controls it is instructive to consider the structure of the route system on the eve of the introduction of the deregulatory measures.

In 1975 the then eleven trunk and nine local service carriers were authorized to serve 45,198 markets on a single-plane basis.[44] At the start of 1976, these 20 carriers held non-stop authority in 28,132 markets. Thus, non-stop authority existed in 62 percent of the markets authorized for service by a single plane. Carriers were actually providing single plane service in 21 percent of all markets authorized for single plane service and they were providing non-stop service in almost 16 percent of the markets with non-stop authority. The carriers were using the best authority available for single plane service in only 11.7 percent of all markets.[45]

By July 1979, the trunks and the locals had made 781 separate moves to add 117 new non-stop routes. These were undertaken by making exits as well as entries, and they formed a modest proportion of the total non-stop markets actually in operation in 1976. The total number of entries and exits made by the trunks as a percentage of their non-stop markets in operation came to 20 percent by July 1979. The figure for the locals was lower, at 13 percent and the aggregate for the trunks and the locals was 17 percent. Around 52 percent of the new routes entered were those of formally dormant routes. Carriers appeared less inclined to actually enter and operate routes which they had obtained by the policy by multiple permissive entry. These represented around 42 percent of the new routes entered.

The trunks appeared to be the more inclined to enter new routes, for these accounted for 67 percent of the number of entries into non-stop markets. They were also more inclined to leave markets. The Big Four (American, United, Eastern and Delta), for instance, had a net addition of

Table 4.2

ENTRY AND EXIT OF CARRIERS IN RESPONSE TO DEREGULATION: MID-1979

	No. of Non-Stop Markets Served 1976	Non-Stop Markets July/78 to July/79 Entered	Exited	Net	Dormant Route Status June 15, 1979 Entered	Applications	Routes Requested for Protection June 15, 1979
Trunks							
American	284	37	39	(2)	26	45	4
Braniff	139	67	9	58	34	195	12
Continental	116	17	19	(2)	5	16	6
Delta	442	32	43	(9)	7	28	--
Eastern	469	33	46	(13)	17	17	22
National	138	17	20	(3)	--	1	1
Northwest	168	19	3	16	9	25	15
Pan Am	12	3	4	(1)	--	--	--
Transworld	256	39	16	23	6	39	10
United	556	31	29	2	5	8	14
Western	143	9	27	(18)	--	1	3
Sub-total	2,723	304	255	49	109	375	87
Locals							
Allegheny (U.S. Air)	279	37	16	21	4	71	--
Airwest	187	19	24	(5)	1	11	1
Frontier	224	18	5	13	--	36	7
North Central	237	16	0	16	10	28	--
Ozark	204	19	3	16	--	18	--
Piedmont	267	21	17	4	4	20	4
Southern	170	7	8	(1)	--	6	--
Texas Int.	126	8	4	4	1	7	--
Sub-total	1,694	145	77	68	30	197	12
TOTAL:							
Trunks & Locals	4,417	449	332	117	139	572	99
Regionals					142	586	5
New Entrants					19	210	--

Sources: Civil Aeronautics Board, Internal Data, revised Sept. 9, 1979.

U.S. Department of Transportation, An Analysis of U.S. Air Carrier Domestic Route Authority, Contract DOT-OS-60155, Table 6, p. 9.

"Standing in Line: Was it Worth It?," Air Transport World, August, 1979.

only 3 markets. The smaller trunks had a net addition of 46 and the locals had 68 (net) additional markets. Not only were the smaller trunks less inclined to leave markets than the Big Four, they also had among their ranks the most expansionist of the carriers. Braniff dropped only 9 markets and added 67, although its behaviour suggests that its rush to expand was less a reflection on its former inability to obtain routes under the 1958 FAA regulations, than a fear that regulation in a more severe form may return.[46]

The local trunks entered some 145 markets, or around 32 percent of the total number of markets entered. Yet many had failed to enter those routes to which they had acquired access. This could have been due, as some of them claimed, that many of the routes had been designated also to other carriers. The policy of multiple permissive entry was expected to work in this way and, over a longer period, different carriers are expected to enter and leave the routes they have been designated. The lack of available equipment probably played a part in the actions of the locals. At the time of deregulation the locals did not operate wide-bodied jets. Collectively they operated 20 three-engine and 295 two-engine turbojets and turbofan aircraft. Alternatively, their orders during this period did not indicate they would be entering competition with the trunks. At the end of 1978 they had on order 100 aircraft: 42 DC-9-30s, 19 Boeing 737s and 17 B727-200s.[47] They also found that the lead time on deliveries were increasing as production reached its limits. This was also the case in the commuter sector, where the new orders in the year of deregulation reached $300 million and the delivery lead time had stretched between one and two years.[48]

Given these constraints, however, the response of the carriers to multiple permissive entry hardly suggests that it has resulted in massive new entry, bringing with it excess capacity, falling load factor and destructive competition. Although such carriers as Midway and New York Air[49] were conspicuous, there were, in fact, less "brand new" carriers entering and operating jets than expected. On the dense, long-haul routes, there were few new entrants. World Airways was one of the few supplementals which entered. Indeed, most of the newcomers entered the dense, short-haul routes and into the small community end of the market. As expected, the former intrastate carriers, such as Southwest, PSA, Air California and Air Florida, were prominent entrants into the interstate markets. Even so, new entrants captured only a small share of the market. In October 1979 new entrants accounted for only 3.10 percent of the revenue passenger miles (RPM) produced.[50]

In the year ending October 31, 1979, the domestic scheduled RPMs expanded by 12.7 percent. The share of the largest two trunks had dropped by just under one percent over the first year of the ADA. The share of the six smaller trunks had fallen by 1.5 percent, while the local service carriers' share had risen by 0.8 percent. These figures, however, were effected by the strikes among the large trunks and the locals, the latter occurring in September 1979. Furthermore, data were not available for approximately 300 commuter carriers. These omissions probably account for the shares of the other carrier groups being overstated by around five percent.[51]

An examination of the same measurements for the year ending October 31, 1980, revealed that the economic downturn had set in. Domestic RPMs had fallen by 2.15 percent, the largest falls occurring on the routes of the small trunks, down by 10.45 percent, and the Big Five (Eastern, American, United, Delta and TWA), down by 2.8 percent, while the local service carriers increased by 7.7 percent. The share of the Big Five trunks had dropped 0.4 percent, the share of the small trunks had fallen some 1.9 percent and local service carriers had risen by almost 1 percent. The market share of the new entrants remained low, at 3.8 percent.[52]

The number of points terminated by certificated carriers and subject to the 90-day notice under Section 400(j)(1) of the <u>ADA</u> reached a cumulative total of 205 by the second quarter of 1980.[53] An indication of the relative magnitude of these terminations is that over the period 1938 to 1977 some 364 communities had been abandoned by certificated carriers, and of this number 258 were deleted, 38 replaced by commuter services and 31 suspended without agreements to replace the service.[54]

Yet almost all of the 205 points terminated by carriers since the passing of the ADA have received replacement carriers, indicating that the CAB in implementing the essential air service programme appear to have defined a level close to the threshold at which carriers will enter the market.[55]

Suspension of services at the larger centres has been allowed to proceed without impediment. Six months after the passing of the ADA, in July 1979, the trunk carriers had closed only 35 stations over the previous period of a year earlier. The locals had closed 47 (see Table 4.3). The predictions that there would be massive reductions in service, routes and station closures immediately following deregulation were not borne out. The closures were far below the number predicted by the claimants of the argument that extensive cross-subsidization maintained many unprofitable routes and stations.[56]

Over time, as the carriers have adjusted their route plans, they have moved in and out of stations. Many of these adjustments have taken place on the short-haul routes as the trunks pulled out and were largely replaced by the locals and commuter carriers. An increase in the trunks' average flight length resulted, increasing by 9.5 percent between 1976 and 1979.[57] In 1980, for instance, United pulled out of its routes which were under 200 miles, and in so doing increased its averge route length from 750 to 906 miles. Over the same period, American increased its average route length from 800 to 900 miles.[58]

The movement of the trunks and locals out of their lightly travelled routes and into the denser ones and their replacement by commuter carriers is indicated by the emerging pattern of services. The trunks and the locals have raised their frequencies on the medium- and long-haul route segments and reduced them over the short stage segments. Between October 1978 and 1979, for instance, certificated carriers reduced their seats by over 13 percent on routes of 300 miles in length, and increased them by 19 percent on routes of 1,900 (see Table 4.4). Yet over many of the low-density, short-haul routes there was an expansion in the services as the commuter carriers entered. Between October 1979 and October 1978, there was, for instance, an increase in the number of

Table 4.3

CHANGES IN THE NUMBER OF STATIONS SERVED BY THE CERTIFICATED CARRIERS:

July 1978 Compared With July 1979 and April 1980 Compared With April 1979

Carrier	July 1/78 and July 1/79			Apr. 1/79 and Apr. 1/80		
	New	Closed	Now Serving	New	Closed	Now Serving
Domestic						
American	7	2	50	--	3	48
Braniff	19	2	53		6	47
Continental	2	--	32	1	1	32
Delta	3	5	69	5	7	69
Eastern	5	8	63	7	3	70
National	1	9	24	--	3	22
Northwest	3	1	34	2	--	36
Pan Am	--	3	7	1	7	8
TWA	13	1	49	11	3	50
United	1	4	80	2	12	74
Western	3	--	34	3	2	31
Sub-Total	57	35	495	32	37	487
Local						
U.S. Airlines[1]	8	8	79	4	2	82
Frontier	8	7	88	8	7	85
Hughes Airwest	3	16	37	--	4	37
Ozark	8	2	53	2	7	47
Piedmont	6	5	48	2	8	45
Republic[2]	12	--	80	40		120
Texas International	4	9	29	4	6	27
Sub-Total	49	47	414	60	34	443
TOTAL Trunks & Locals	107	86	959	92	71	930
GRAND TOTAL All Carriers	364	208	1,705	340	317	1,518

Notes

[1] Formerly Allegheney Airlines.
[2] Formerly North Central and Southern.

Source: Civil Aeronautics Board, Staff Study, Report on Airline Service, Fares, Traffic, Load Factors and Market Shares, July 1, 1979, Table A-6; April 1980, Table 16.

flights per week between non-hub and small hubs of almost 14 percent (see Table 4.5).

Such adjustments, however, have meant that some communities are now receiving services which are provided by carriers operating slower and less advanced equipment. Some communities have experienced substantial reductions in service. Many among these are the smaller and medium sized hubs (see Table 4.5) near to the larger centres, some of whom were formerly part of a major trunk system. Overall, the pattern of services since deregulation suggests the larger and medium sized hubs have experienced the largest increases in frequencies and the smallest decreases when the downturn in the economy started to influence the supply of services early in 1980.[59]

Since the passing of the ADA a number of merger proposals have occurred: Texas International/Pan American/National, North Central/Southern and Continental/Western. Of these the Pan American/National merger received Presidential assent in December 1979. The North Central/Southern merger went ahead in May 1979. The resulting carrier was named Republic Airlines, and this newly named carrier expanded further in September 1980 when the Board announced its final approval of the purchase of Hughes Airwest.

The two major mergers, involving the takeover of National by Pan Am and the similar action by North Central over Southern, were deemed by the Board not to result in a harmful reduction in competition. The merging carrier in each case suggested a takeover would be less costly than a prolonged process of entry into new routes.

The Pan Am/National merger reflected, in part, the fact that prior to the ADA, Pan Am had no substantial domestic route network. After the ADA it operated transcontinental routes and aimed to compete on equal terms with domestic carriers which were expanding into international services. It needed a domestic network if it was to be competitive, and it successfully argued that merger with National would give it such a network at much less cost than it would incur if it started from scratch.[60]

Table 4.4

CHANGES IN TRAFFIC, CAPACITY AND LOAD FACTORS BY MILEAGE BLOCK

Domestic 48-State Operations, Certificated Carriers
October 1979 vs. 1978

	Percent Change			Point Change
	Departures	Seats	Passengers	Load Factor
Mileage	Oct. 79/78	Oct. 79/78	Oct. 79/78	Oct. 79/78
100	-31.4	-25.4	-23.5	1.1
200	-22.9	-16.9	-13.1	2.5
300	-16.4	-13.4	-9.4	2.1
400	-7.8	-3.8	-3.2	0.4
500	-6.5	-2.2	-1.2	0.6
700	-5.0	-2.4	-0.4	1.1
1,000	4.8	8.1	7.1	-0.5
1,300	7.8	5.7	6.2	0.3
1,600	6.7	0.8	0.7	0.0
1,900	12.6	19.2	9.6	-4.9
2,200	13.2	28.2	25.2	-1.4
2,600	-4.9	15.4	24.5	12.1
2,800	2.5	0.9	9.7	5.2

Source: Civil Aeronautics Board, Report on Airline Service, Fares, Traffic, Load Factors and Market Shares, Service Status on November 1, 1979; Table D-5, pp. 120-1.

Table 4.5

SUMMARY OF FLIGHT FREQUENCIES BY MARKET TYPE

October 1, 1979 vs. October 1, 1978

	Flights Per Week			
Market Type (Hub)	10/1/78	10/1/79	Change	Percent of Change
Non - Large	38,052	38,397	345	+0.9
Non - Medium	10,746	12,057	1,311	+12.2
Non - Small	9,810	11,172	1,362	+13.9
Non - Non	17,245	15,718	-1,527	-8.9
Small - Large	30,796	30,742	-54	-0.2
Small - Medium	10,649	10,448	-201	-1.9
Small - Small	4,166	4,316	150	+3.6
Medium - Large	44,877	45,646	769	+1.7
Medium - Medium	7,774	7,514	-260	-3.3
Large - Large	50,762	52,118	1,356	+2.7
Total	224,877	228,128	3,251	+1.4

Source: Civil Aeronautics Board, Report on Airline Service, Fares, Traffic, Load Factors and Market Shares, Service Status on November 1, 1979; January 1980, Table B-1, p. 1 of 2.

North Central operated short-haul routes which were primarily travelled by business passengers. In an attempt to obtain longer routes and more tourist traffic it had considered mergers in the past with Mohawk. This was not accomplished, in part, because North Central was unable to obtain bridging routes under the licensing policies of the Board. When entry deregulation started, North Central went about entering bridging points, this time to the south, into Southern's network. At the time of the merger five important bridging routes were in operation, including the Detroit-Atlanta, Detroit-Nashville, and Memphis-Chicago routes. It did not extend its use, however, of the possibilities of extending further into Southern's territory which deregulation provided. Instead, in testimony at the CAB merger hearings the carrier successfully espoused the advantages of the economies of the "feeder network" system and the efficacy of merging as a means of achieving such as system.[61]

4.6 The Response of the Carriers to Fare Flexibility

At the time of the passing of the ADA the Board was already operating a fare policy which introduced fare flexibility. In August 1978, the Board adopted regulation PS-80, which established a "suspend-free" zone ranging from 70 percent below to 10 percent above the coach fare formula set by the Domestic Passenger Fare Investigation (DPFI). In the ADA the Board was authorized to establish a standard industry fare level (SIFL)[62] and granted authority to modify the pricing rules and the percentage increases for particular classes.[63] After January 1st, 1983, the Board will cease to regulate air fares.

The fare policies introduced by the Board since the ADA indicate it has been prepared to introduce increasing fare flexibility. This flexibility afforded the carriers has widened such that by mid-1980 the Board effectively ceased to set constraints. There have been three major steps in this development: July 1979 to May 1980, when the SIFL was introducted; May 1980 to September 1980 when the floor was removed; and September 1980, when a ceiling was introduced on short-haul routes.

In July 1979 the Board introduced a change in policy in which a fare ceiling was established around the SIFL. This is a modification of the coach fare formula established in Phase Nine of the DPFI. Unlike the fares established by the DPFI, the SIFL is adjusted on the basis of costs alone. It can be adjusted every two months such that the "regulatory lag" is reduced. In effect, it is an indexed price, rising with the changes in costs per available seat mile. Fare flexibility is largely determined by the degree of competitiveness on the routes concerned. All carriers were given the authority to adjust SIFL prices upwards by 10 percent in markets where 4 or more carriers were authorized to provide non-stop service. They were allowed to increase fares by 5 percent for 58 days in the years in monopoly markets. Local carriers retained their authority to price 30 percent above the SIFL, although the additional 5 and 10 percent flexibility was subsumed within the 30 percent. On the down side, a floor at 50 percent below the SIFL was instituted.

In the case of commuter carriers, the ADA stipulated[64] that the joint fare formulas established by certificated carriers must be extended to joint fares between certificated carriers and commuters. Those commuters entering into joint fares with certificated carriers must give 90 days' notice before terminating a service in which a joint fare is offered. In effect, the commuters are able to charge derivatives of the SIFL fares until 1983.

On May 14th, 1980, the Board widened the area of flexibility to such an extent that it was unlikely the limits acted as effective constraints on the carriers' fares. It granted carriers unlimited fare flexibility downwards on all flights and unlimited fare flexibility upwards on flights of up to 200 miles. On flights of between 200 to 400 miles a ceiling of 50 percent above the SIFL was instituted. A ceiling was placed at 30 percent above the SIFL for fights of 400 miles or more. On September 24, 1980, however, fare limits were reintroduced on short-haul flights. On all fares for all flights for all mileages a ceiling of 130 percent of the predominant SIFL fare plus $15 in each market was introduced. The effect of this change has been to increase the previous ceiling on long-haul fares from 130 to around 140 percent.

These increases in fare flexibility prompts three main questions: what have been the direction of the movement in fares? what have been the emerging price structures of the carriers? and what have been the changes in the availability of price/quality options?

The response of the carriers, however, indicates more than their afforded degree of pricing flexibility. The behaviour of the incumbent carriers and the movement of fares is, in part, an indication of the existence and the threat of new entrants competing on routes. It also reflects the managerial innovativeness and enterprise of airline managements, and the speed at which new carriers can be formed. For the eighteen months following January 1979 the industry was operating under considerably reduced entry regulations alongside a degree of fare flexibility which allowed substantial freedom to lower fares but which restricted upward fare movements on routes according to the degree of competitiveness. From May 1980 the carriers have also enjoyed unrestricted fare flexibility on the downside and faced very high ceilings on the upward side.

4.6.1 The Movement of Fares and Yields

Estimates of the average fares of the trunk carriers, as measured by their real yields, are shown in Figure 4.1. Their movement is measured by taking the real yields in the quarters of the years starting in 1976, and then expressing later yields, as a percentage of the yield in the corresponding quarter of the previous year.

As Figure 4.1 indicates, large drops in the yields were registered in 1978, particularly during the second and third quarter. A comparison of the third quarter of 1978 with that of 1977 indicates a drop in real yields of 8.5 percent. This contrasts with a drop over the same quarters in 1976/77 of only 0.7 percent. An examination[65] of the movement of coach fares and discount fares indicates the large drops in yields were due primarily to the substantially greater drops in discount fares. The turning point came in the fourth quarter of 1979, when real yields increased. They rose dramatically in the first quarter of 1980.

Coach fare increases led the way, increasing by over 10 percent in real terms in 1979, while real yields dropped by 6.2 percent.

The drop in real yields of around 8.6 percent in 1978 was a substantial one. It was the largest recorded over the period since 1955, larger than those of the sixties, when the advent of productive jets helped to lower the real price of air travel.[66] During 1979 when there was entry deregulation, the trunks' real yields fell by 6.2 percent. Yet comparing the year prior to the passing of the ADA, i.e., the third quarter of 1978 with that of a year earlier, reveals that real yields fell by 8.5 percent. In the next, full year of the ADA, real yields had fallen by 4.8 percent.[67]

It would appear from these simple comparisons that the timing of the drops in fares did not appear to coincide with the releasing of entry controls and the introduction of fare flexibility. The largest drops in yields occured before the passing of the ADA, when the carriers engaged in the extensive use of deep discount fares, facilitated by the more liberal fare policy of the Board.[68] These drops in yields at this time nevertheless indicate the extent to which the former regulations were maintaining fares above the levels passengers desired and were able to pay.

A major factor in the timing and the extent of the movement in yields, however, has been the rise in the price of fuel. Between July 1978 and July 1979 the average price per gallon for the domestic trunks rose by 52.5 percent; for the period January 1979 to January 1980 it rose by 89.4 percent.[69] Yet over the year ending at the third quarter of 1979, real yields had fallen by 4.8 percent. The falls in real yields were possible because of the growths in the productivity of the carriers.

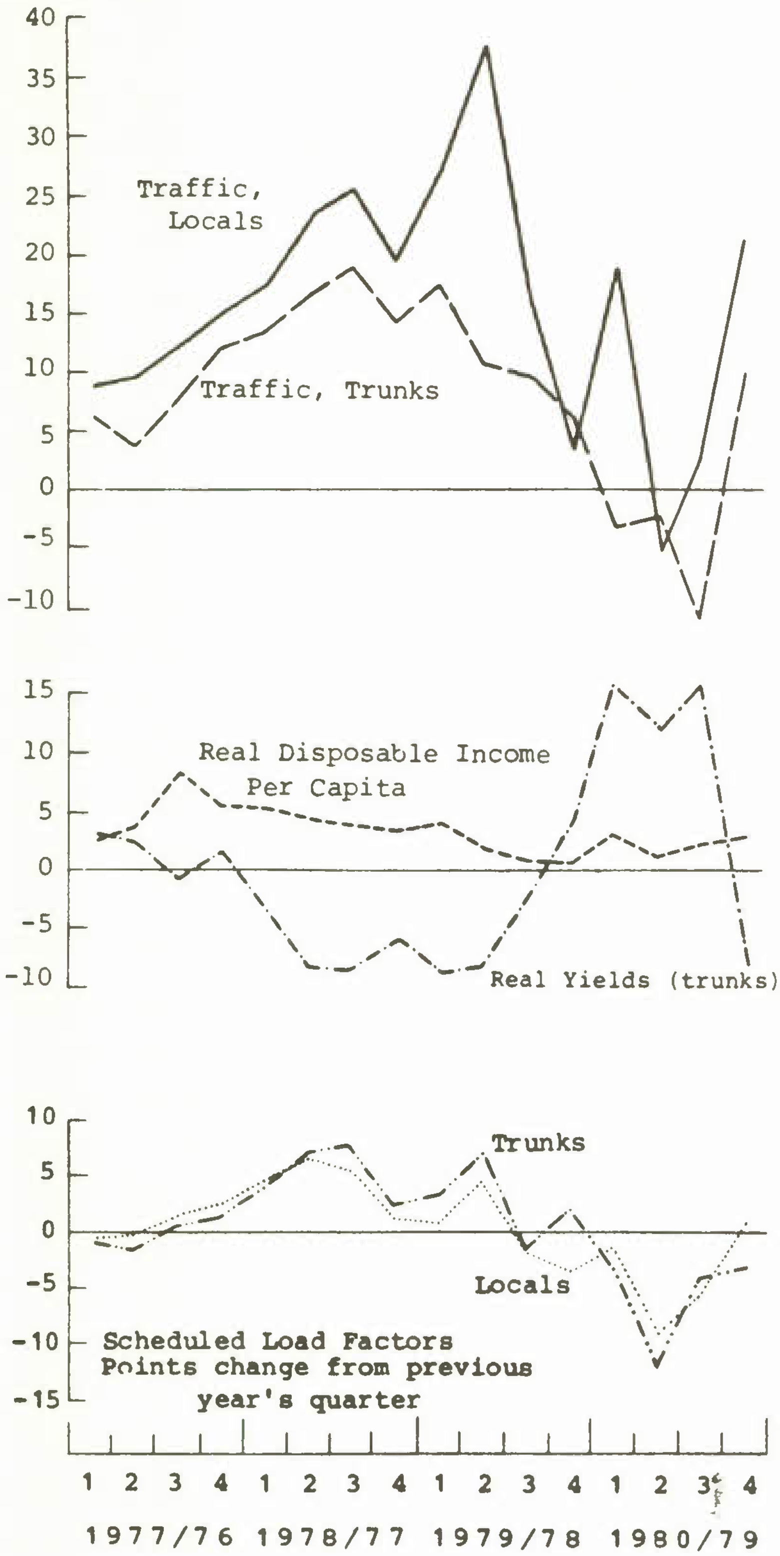
4.6.2 The Timing of the Movement in Fare Levels

During the year ending at the third quarter of 1979, the trunk carriers' input prices had risen by 21 percent, yet due to gains in productivity of just under 8 percent, real yields fell (see Table

Figure 4.1

THE MOVEMENT OF SCHEDULED DOMESTIC TRAFFIC AND FARES SINCE DEREGULATION

Movement in Traffice, Load Factors, Fares and Real Disposable Income: Percentage Change From Previous Year



Sources: C.A.B.; A.T.A.; Aviation Daily; Survey of Current Business.

4.6).[70] Double this gain in productivity was registered in the year ending in the third quarter of 1978. As the figures indicate, the rate of productivity growth during the period of fare liberalization prior to the passing of the ADA was substantial, and considerably greater than the six years of the 1970s prior to deregulation. Even though the wide-bodied jets entered the trunk routes over the period 1970 through to the end of 1976, the gain in productivity was 21 percent, in contrast to the gain of 14 percent during the much shorter period stretching from the year end of 1976 through to the fourth quarter of 1978.[71]

Such movements in productivity pose questions of causality concerning the parts played by the carriers in increasing their productivity. What part did lower fares, resulting from the use of increased pricing flexibility, play in increasing demand, pushing up load factors and lowering unit operating costs? To what extent did the employment of fare flexibility, as distinct from the removal of routing restrictions, play in the increase in demand and the lowering of costs? To what extent did changes extraneous to the industry play in the growth in demand?

The growth of real disposable income per capita would appear to have been a major cause of the growth in traffic during the upturn in the economy, starting in the middle of 1975. This growth in disposable income increased demand just at the time that deep discount fares were introduced. Yet the growth in disposable income per capita started to tail off by the middle of 1977, such that between the second quarter of 1977 and the fourth quarter of 1979 it grew by less than 6 percent. It would appear, therefore, that the deep discount fares in the first half of 1978 had a significant effect on the growth of traffic and on the increases in load factors. In the first three quarters of 1978 the load factors of the domestic trunks increased by 4.0, 7.1 and 7.5 points respectively over the quarter of a year earlier (see Figure 4.1). The carriers also used their pricing freedom to flatten out the seasonal troughs in traffic and so lower their costs. This was indicated by the large jumps in load factors in the first quarter of 1979 and 1978, traditionally the low quarter of the year.

Table 4.6

GROWTH IN TRAFFIC AND PRODUCTIVITY ON THE U.S. DOMESTIC SCHEDULED TRUNKS BEFORE AND AFTER THE PASSING OF THE ADA

	Period	
	1977(3Q)-1978(3Q)	1978(3Q)-1979(3Q)
Growth in Traffic (RPM) Percentage	19.2	9.6
Growth in Productivity[1] Percentage	9.2	7.8
Percentage Change in Real Yield	(8.5)	(4.8)
Point Change in Load Factors	7.5	(1.4)
Growth in Real Disposable Income Per Capita Percentage[2]	4.0	0.8

Notes

1. Obtained by taken the average price per revenue ton-mile, adjusted for transitory profits or loss. This is used as a measure of average production costs. Then an index of airline industry input prices was calculated. This was used as a measure of the prices that carriers themselves pay. The difference between the adjusted index of price per revenue ton-mile and the index of airline industry input prices was then used as a measure of the industry's productivity gains.

2. Deflated by the personnel consumption expenditure index, 1972 = 100.

Sources: The source of the estimates of growth in productivity taken from Robert H. Frank, Productivity Gains Since Deregulation in the Airlines Industry: A Survey of Research in Progress (Washington, D.C.: CAB, Office of Economic Analysis, April 24, 1980), Table 1, p. 3.

The other sources of data are as follows: Aviation Daily, various issues; Survey of Current Business, various issues; CAB, Report on Airline Services, Fares, Load Factors and Market Shares, various issues.

Yet, by the middle of 1979, yields started to rise and in 1980 they exceeded the rise in the CPI. In September 1980 normal coach fares (including night and economy fares) had pushed beyond the SIFL by an average of 17 percent in competitive markets under 200 miles, over 10 percent in markets between 201 and 400 miles, and over 16 percent in markets over 401 miles.[71] As these figures indicate, carriers appeared to have responded to the upward fare flexibility facilitated in May 1980 by pushing their rates up and beyond, apparently, the increases in costs. In September the Board also discovered five carriers had set domestic fares in excess of the SIFL and its ceiling.[72]

There are a number of reasons that can contest the explanation of such action. It could be that the real and threatened competition on the routes was insufficient to cause the incumbents to keep their fares down. Alternatively, the threat of competition could have been real, but it may not have been perceived so by airline managements still operating with reflexes developed behind the system of protective regulation. Whatever the role of market conditions in sustaining such increases in fares, they probably reflect the response of carriers who wished to regain their revenue and profits in the face of reduced demand and lower load factors which had followed the downturn in the economy (see Figure 4.1).

In the early months following the ADA the carriers were cautious in moving their rates up to the ceiling. In the first quarter of 1979 normal coach yields on competitive and monopoly routes appeared to be close to the fare formula in each group, indicating all allowable increases had not been taken.[74] By September of that year, however, carriers appeared to have taken their fares up to the upward flexibility limit across all markets save for the markets in which four or more carriers competed.[75] By the end of 1979 normal fares were set above the SIFL at the allowable maximum flexibility in the majority of non-stop competitive markets.[76] What is interesting is that the upward flexibility was used to the same extent in competitive as in monopoly markets. Many of the latter were short-haul markets, in which competition from surface transport and commuter carriers could be expected to place a limit on the upward movement of fares. The growth[77] of the short-haul market suggested that these fares were competitive with surface transport. The similar upward movement of fares on competitive routes and the large increases in 1980, when the increase in fuel costs had abated somewhat, presents a question as to the efficacy of the competition between carriers in these markets.

Many carriers appear to have adopted the policy of raising fares and yields in the expectation that the drop in demand and load factors would be countered by an upturn in the economy. This upturn had not occurred by the last quarter of 1980, with the result that high traffic losses accompanied the high fares. Actual load factors for many carriers were below break-even levels, which meant that in order to reach such levels, they would probably have to cut back capacity by reducing the size and utilization of their fleets.[78]

There is some evidence that the extent of competition was slowing down in early 1980. February of that year marked the first month since the passing of the ADA during which the deletion of competitive markets exceeded the number of new competitive services. There was a drop of 59 competitive markets, and the following months saw further net losses.[79] Yet this measure indicates the spread of competition and not its intensity. The intensity of competition appeared to still be increasing, as indicated by the continuing growth of markets in which four or more competitors operated.[80] The number of competitive markets in the summer of 1980 still exceeded the number in the corresponding period of 1978. Nevertheless, whatever the extent and intensity of competition, the number[81] of prospective new entrants on to the dense, short-and medium-haul routes in the middle of 1980 testified to the fact that the fares had risen sufficiently high to attract new competitors.

In sum, with the exception of the dense long-haul routes and the growing number of dense, short-haul routes, normal fares since entry deregulation have not shown the substantial drops many had predicted. The largest drops have been registered among the discount fares. Although the restrictions on these fares have been reduced substantially, they still remain on many fares. The largest drops occurred prior to the passing of the ADA, and it would appear that these stimulated growth in demand, raised load factors and increased productivity. In the period after the passing of the ADA, the major gains in productivity appear to have come from the carriers exercising their greater freedom in operating routes suitable for their equipment, adding and dropping points and choosing to operate high seating densities.[82]

4.6.3 Air Fare Structure

The two route groups expected to experience the most change in fare structure were the dense short-haul and long-haul routes. The dense short-haul routes are the type over which the highly productive intrastate carriers of PSA and Southwest operated prior to deregulation and the type which the aggressive regional and local carriers were expected to enter and compete. The long-haul routes were predicted to provide a wide range of fares, reflecting their distinct market segments and price elasticities.

Since the passing of the ADA, Southwest has successfully offered on its newly entered interstate routes the fare structure it developed on its Texas interstate routes prior to deregulation. The fare structure of Southwest was a two-tiered one: low coach fares, around 50 to 60 percent of the CAB regulated coach fares in the mid-1970s, and an off-peak fare, offered at the week-ends, pitched at around 40 percent of coach fares. The fares were unrestricted and service was provided in Boeing 737 twin jets without frills. This fare structure is now in operation in Southwest's Houston-New Orleans and Alburquerque routes and it has been adopted by new entrants, such as Midway and New York Air, on their dense, short-haul markets. Operating DC-9 twin jets, Midway serves 31 cities in 18 states, including the Chicago-St. Louis, Detroit, Cleveland and New York routes. Its super coach fare in December 1980 was offered at 60 to 86 percent of the coach fares on the New York-Chicago routes and 80 percent of the formula coach fare on the Chicago-Detroit route. New York Air entered the New York-Washington route in September 1980 with fares 48 to 80 percent of the coach fares offered by Eastern.

Other prospective new carriers intend to offer a similar low-cost fare structure. Two such carriers are Peoples Express, which hopes to serve New York and 27 other cities by the Spring of 1981, and Meuse Air, which will be based in Houston, and will serve 20 cities throughout the South and Midwest. Existing local and regional carriers have actually entered into dense, short-haul markets by offering a low cost fare structure. Conspicuous among this group has been U.S. Air, which has entered into short-haul markets out of its Pittsburgh hub by offering a simplified structure of low coach fares.

The movement of the locals, new entrants and regionals into the short-haul markets and the movement out of the longer trunks such as United and American, resulted in increasing competition among the large trunks on the long-haul routes, particularly the transcontinental routes. On the eve of the passing of the ADA there were 3 carriers on the transcontinental routes; two years later there were 7, one of which was World Airways, a former supplemental carrier. Another newcomer to these routes has been Eastern, which entered on June 14, 1980, offering a U.S. $99 fare on night coach flights from New York to San Francisco. By mid-November 1980, however, Eastern had almost doubled its transcontinental fare from U.S. $268 to $501 on its New York-Los Angeles route.[83]

The fare structure which has emerged on the transcontinental routes is a complex one, with wide ranging coach and off-peak fares. Of particular note has been the erosion of the restrictions on discount fares. When American introduced its Super Save transcontinental fare in 1977, the tickets had to be purchased 30 days in advance and there was a minimum stay required of 7 days. Two years after the passing of the ADA, passengers now need to buy only 14 days ahead and spend Friday night at their destination.

An indication of the emerging structure of fares on the dense, long-haul routes is given in Table 4.7. This list contains 9 intrastate routes which experienced particularly intense competition in discount fares prior to the passing of the ADA. The fares on December 1, 1980 are expressed as percentages of the September SIFL (described as formula fares in Table 4.7). The range of first class, coach, excursion and discount fares are displayed, along with the number of competing carriers on the routes.

The fare structures indicate a wide range of fares within each class, reflecting the increasing use of off-peak pricing by the carriers. Of particular note are the low coach fares on the New York-West coast routes, some of which fell as low as 40 percent of the SIFL. In contrast, and not unexpectedly, the less dense routes with fewer competing carriers, such as the Boston-L.A. route, have higher fares and smaller price ranges within each fare class.

Table 4.7 also lists 72 high and medium density routes which, in 1975, were at least as large as the Dallas-San Antonio route operated by Southwest Airlines. They are routes which could be expected to attract carriers competing with unrestricted, two tier fare structures which had been deployed successfully by Southwest. In 1975 these 72 routes accounted for 16.8 percent of the originating domestic passengers on interstate carriers.[84] Of these routes, 8 were interstate routes on which lower fares and higher frequencies had already appeared, while 4 were inter-Hawaiian routes, which had their own specialized form of service. On the remaining 60 routes, 18.3 million passengers were carried.

In December 1980 there were 28 routes out of 60 which had been entered by either new carriers or carriers from the ranks of the regional interstate or commuter class. Many routes also had local carriers offering new services. Frequently, the new services were offered from satellite airports in the three big hubs of Chicago, New York and Washington. Indeed, 54 percent of the traffic on these routes in 1975 was accounted for by routes into these three cities, where airport slots were rationed at the popular airports in each city. The new flights from Newark, Midway and Baltimore have produced services which have often been characterized by a low priced, two tier structure. Most of the 72 routes display a wide range of coach fares, but there are few routes on which the

Table 4.7

MAJOR SHORT AND LONG-HAUL CITY PAIR MARKETS: FARE STRUCTURE ON DECEMBER 1, 1980

Markets[1]	Non-Stop Mileage	Range as % of Formula Fare: 1st Class	Range as % of Formula Fare: Coach	% of Formula Fare: Excursion	% of Formula Fare: Lowest Off-Peak or Discount	Carriers: No. of () New, Intrastate, Commuter
Intrastate Markets[3]						
L.A.-San Francisco	347	57-129	48-126	25-108	45-81	8
Dallas-Houston	222	150-180	63-138	63-117	40-42	7
L.A.-San Diego	109	107-126	73-139	48-118	73	5
L.A.-Sacramento	373	77-140	77-139	91-119	72	3
Fresno-San Francisco	165	93	81-104	53-62	81	3
Fresno-L.A.	213	80-107	80-107	--	87	4
L.A.-Monterey	267	128	93-120	64	87	3
Dallas-San Antonio	247	145-170	122-132	15-113	39-62	5
Interstate Markets						
Short Haul						
Boston-New York	191	151-177	103-135	53-115	55	6(1)
New York-Washington	215	160-189	87-146	56-124	51-105	7(2)
Las Vegas-L.A.	236	169	106-135	51-115	54	4(2)
New York-Pittsburgh	329	157-171	131-136	58-111	69	2
Chicago-Detroit	238	148-155	118-130	52-100	78	6(2)
Chicago-Minneapolis	344	161-174	115-134	56-106	65	6(1)
Boston-Washington	406	133-154	110-129	50-109	58	6(1)
Cleveland-New York	410	179	72	42-117	110	3
Honolulu-Kaui	102	87-110	92	--	72	2
Buffalo-New York[4]	291	173	132	58-112	-	2
Chicago-St. Louis	256	146-170	112-137	50-88	70	4(1)
Hilo-Honolulu[4]	216	80-100	92	--	--	2
New York-Rochester[4]	253	191	137	61-116	--	2
Boston-Philadelphia	271	153	126-135	57-115	101	5
Chicago-Cleveland	311	148	118-148	68-126	78	5
L.A.-Phoenix	370	153-173	113-120	53-102	49-82	5(2)
New York-Syracuse[4]	119	218	158-167	75-141	127	3
Philadelphia-Pittsburgh[4]	265	174	134-142	60-121	--	2
Chicago-Kansas City	407	163	130-137	61-116	65-83	6(2)
Chicago-Pittsburgh	412	160-170	123-130	55-105	--	3
Portland-Seattle	132	140-162	57-124	53-103	58	7(2)
Houston-New Orleans	304	149-162	118-124	14-106	34	5(2)
Seattle-Spokane	223	161-184	115-142	54-93	85	3(1)
Columbus-New York	473	177	125-136	58-106	--	2
Detroit-Washington	391	172	128-133	60-113	--	3
Miami-Tampa[4]	198	150-179	72-138	44-89	66	5(1)
Chicago-Cincinnati	254	148-150	124	55-105	--	3
New York-Raleigh	425	137-183	105-141	47-102	--	3(1)
Atlanta-Tampa	373	154-153	129-130	58-84	105	3
Baltimore-New York	179	176	129-143	61-121	109	6(2)
Detroit-Philadelphia	452	157	125-140	131-237	100	2
Chicago-Columbus	287	179	137	75-89	--	2
Reno-San Francisco	188	105-160	66-122	54-80	56	5(3)
Miami-Orlando[4]	196	148	68-122	53-79	62	6(1)
New York-Norfolk	290	150	116	52-81	--	2

Table 4.7 (cont'd)

MAJOR SHORT AND LONG-HAUL CITY PAIR MARKETS: FARE STRUCTURE ON DECEMBER 1, 1980

Markets[1]	Non-Stop Mileage	Range as % of Formula Fare: 1st Class	Range as % of Formula Fare: Coach	% of Formula Fare: Excursion	% of Formula Fare: Lowest Off-Peak or Discount	Carriers: No. of () New, Intrastate, Commuter
Greensborough-New York	455	155-175	113-135	53-87	96-107	3(1)
Las Vegas-San Francisco	420	155	78-127	52-108	73	8(2)
Chicago-Indianapolis	167	162-176	126-136	56-107	114	3
Cleveland-Detroit	94	148	125-161	75-105	--	4(1)
Dallas-New Orleans	437	144-151	120-126	10-107	21	5(2)
Pittsburgh-Washington	185	144-171	109-130	52-111	--	5
Chicago-Memphis	485	140	130	64-75	93	2
Baltimore-Boston	370	142	117-119	53-101	62	3(1)
Kansas City-St. Louis	233	194	127-149	30-74	66-102	3
Cleveland-Philadelphia	363	150	125	69-81	--	2
Denver-Salt Lake City	381	148-168	77-130	54-105	56-64	7(1)
Cleveland-Washington	297	164	126-127	56-108	101	3
Albany-New York[4]	139	176-180	134-136	54-116	91	2
New York-Providence	150	136	100-127	57-108	--	3
Atlanta-Jacksonville	270	148	124-126	56-81	99	3
Boston-Pittsburgh	490	252	128	57-109	--	2
Hartford-Washington	317	--	115-129	63-109	55	2(1)
Austin-Dallas[4]	183	148-167	82-128	18-109	37	3(2)
Atlanta-Orlando[4]	400	148	124	55-81	100	3
Chicago-DesMoines	306	178	137	62-117	110	3
New York-Richmond	286	157	109-121	54-83	--	3(1)
L.A.-Tucson	451	157	112-121	52-78	72	3(1)
Atlanta-Memphis	332	141	117	52-76	93	2
Chicago-Omaha	423	176	136	61-115	80	4(1)
Honolulu-Kona	169	102	94	--	--	2
Atlanta-Charlotte	227	150	87-124	56-87	98	3
Chicago-Louisville	276	149	121-124	32-84	98	2
Chicago-Dayton	231	179	139	75-90	--	2
Means	288	147-158	110-130	55-103	76	
Long Haul						
New York-Ft. Lauderdale	1,070	88-150	81-125	56-81	62	6(1)
New York-Miami	1,090	86-161	80-123	56-105	62	6(1)
Chicago-L.A.	1,745	160-176	123-135	55-115	54-66	3
New York-San Francisco	2,586	100-176	40-136	40-115	100-108	6(1)
New York-L.A.	2,475	103-176	40-135	42-80	41	6(1)
Boston-L.A.	2,611	169-177	93-135	55-114	108	3
L.A.-Washington	2,286	154-171	50-132	52-112	49	5(1)
New York-Chicago	740	175-176	95-135	60-114	81	3(1)
Chicago-San Francisco	1,846	177	81-136	61-116	56-68	3
Means	1,827	134-171	76-132	53-105	70	

Notes to Table 4.7

1. Markets ranked in order of the origin-destination of passenger traffic in 1979.

2. Coach formula on December 1, 1980:

   $25.92 + 0.1418 (0-500 miles) + 0.1081 (501-1,500) + 0.1039 (1,500 +)

   Announced by order 80-6-178, effective July 1st, 1980.

3. Intrastate markets are those which were operated by largely unregulated intrastate carriers in 1974.

4. These are intrastate routes, but are placed in the interstate route group. They are in states which did not have substantial reductions in direct regulations, as did Texas and California.

Source: Official Airline Guide, North American Edition, Dec. 1, 1980.

U.S. Department of Transportation, An Analysis of the Interstate Air Carrier Regulatory Forum, Vol. I/Summary Report, DOT-OS-60078, January 1976, Exhibit 7.

coach rate has been pitched below the SIFL. There are 7 interstate routes and 9 on the mainland interstate routes on which this occurred in December 1980. Alternatively, most of the routes offer a wide range of excursion fares, the average at the lowest end being almost half the SIFL. The lowest off-peak fares ranged under 80 percent of the SIFL, and are often the jet thrift and super coach fares. These fares, along with the excursion fares, are being purchased under increasingly diminished restrictions.

4.6.4 The Price/Quality Options

A number of measures can be used to indicate changes in the quality of service of the air transport system: load factors, aircraft departures and aircraft routings.[85] Load factors indicate the degree of difficulty a passenger has in obtaining a seat on a chosen flight. The higher the load factor the higher the probability of a passenger failing to obtain a seat. The frequency of aircraft departures also affects the chances of a passenger obtaining a seat. The more frequent the departures, the higher the probability of achieving a seat and the shorter the waiting time between flights. Another influence on travel time is that of routing. Changes in routing can affect the number of stops and so reduce the travel time.

All three indicators appeared to have increased in the two years since deregulation, although the movement has been uneven and also related to the cycle of the economy. The average load factor for the system trunks was 55 percent in 1976. Two years later it had risen to 61 percent and in 1979 it had risen further to 63.2 percent, but in 1980 the monthly returns were far below those of a year earlier (see Figure 4.1). The increases in load factors were not uniform across routes or across the day and year. They were concentrated on off-peak flights, thanks to the increasing use of differential pricing by the carriers. As a result, although higher load factors meant more passengers could not obtain seats on flights of their choice, the number was less than if this had been uniformly spread across the day and year. As for departures, there were 9 percent more in 1979 than in 1977. The greater route flexibility afforded the carriers appeared to meet a ready response, but in early 1980 departures started to fall below the levels achieved in 1979. The percentage drops in the middle of 1980 on the non-hubs started to exceed the increases made in 1979 over the year previously. These were the exceptions, however, and despite the downturn, the changes in departures in 1980 on the other categories of hubs exceed those made prior to the easing of the regulation of route operations in 1978.[86] The number of city pair markets receiving non-stop or one-stop service increased substantially during the first year of the ADA. Between June 1978 and June 1979 the number of such routes increased by over 68,000, while the number receiving multi-stop service declined by 20,400 over the same period.[87]

The largest drops in fares following fare liberalization have been among the discount fares. On most routes, normal coach fares have been maintained at levels either near to the SIFL or at the upper fare ceiling; when they did move down, they moved only a little.[88] During the economic expansion of 1977, 1978 and for the first half of 1979, load factors rose across all classes of service. This has meant that the relative gains in fares and quality of service have been largely received by the off-peak travellers. In contrast, the travellers paying the normal coach fares, many of whom are travelling for business reasons, have experienced relatively limited fare reductions, yet at the same time they have been faced with travelling on flights with inconveniently high load factors.

4.7 Summary and Conclusions

The response of the industry following the phased removal of the protective regulation under the ADA indicates that neither destructive competition nor the monopolization of the industry has taken place. The movement of fares and changes in the quality of service have approximated closely to the predictions made by the nonprice rivalry hypothesis. Indeed, perhaps the most striking indication of the incidence of the protective regulations were the substantial drops in real yields in 1977 and 1978. Along with the rise in traffic, profits and load factors, these drops in fares and quality of service suggested they had been regulated at levels higher than many passengers desired and were able to pay. The active movement of carriers in and out of routes since the passing of the ADA suggests the former entry and exit regulations, and the policy of subsidizing of local carriers, were serving to allocate aircraft and carrier types to routes which were inappropriate for their capabilities. The ADA's removal of most of the restrictions on carriers exiting and entering routes facilitated a more appropriate allocation of equipment and carriers to routes, and in so doing increased the possibilities of gains in productivity.

Productivity increases from these sources were largely sustained after the passing of the ADA, when carriers were able to move in and out of routes. Economic forces, external to the industry, also played their part in these increases in productivity, for the source of the rise in 1977 and 1978 came largely from the side of demand. Increases in real disposable income -- as well as the lower real fares -- played their part in raising demand, increasing load factors and aircraft utilization. The downturn in the economy in 1980 set in motion the effects in reverse. After occurring in 1979, the sustained rise in fuel prices acted to contain the drop in real fares. They also tilted the advantage in operating costs in favour of the short-haul carrier, for the more energy intensive, older, long-haul jets incurred higher operating costs than the modern, shorter-haul jets. Carriers with relatively fuel efficient short-haul jets enjoyed cost advantages over surface transport competitors and carriers with fleets of long-haul jets.[89] They gained increasing shares in the short-haul markets. Some carriers, such as U.S. Air, entered successfully into longer haul routes.

The effect of the rise in fuel prices on the relative cost of operating aircraft types has also influenced the directions of changes in the structure of the industry. The dense, short-haul routes have seen the largest changes, with the departure of many of the trunk carriers and their replacement by new entrants and former local, intrastate and commuter carriers. Operating more fuel efficient aircraft, the new entrants have successfully established two-tier pricing structure which had been pioneered on the intrastate routes in Texas and California. This structure reflects the variation in the demand over the day and week, rather than discriminatory action by the carriers, for the fares are largely unrestricted.

The production of services without frills at unrestricted prices have been successfully offered by carriers with low overheads, low labour costs, who operate fuel efficient jets at high rates of utilization. The superior financial performance of such carriers during the downturn of the economy in 1980 and the gains in market shares appear to be sustainable in the future. If these are realized, then travellers on short- and medium-haul routes will be increasingly offered services without frills at unrestricted fares from carriers who will have adjusted to operating highly-utilized, specialized fleets.

Carriers appear to be responding to deregulation by moving from the operation of mixed structures of long-, short-, and medium-haul routes into producing services on one type of route. Not only have such movements towards specialization been the source of gains in productivity, they also suggest that economies of servicing two or more types of routes are limited.

After two years of the ADA, these structural developments are discernable but have only been partially realized. The share of the market accounted for by new carriers is still small. Many fares on dense, short-haul routes are restricted. The long-haul routes have attracted and retained few new entrants.

There are a number of reasons why structural changes have been slow in occurring. In the case of long-haul trunk carriers the evidence suggests carriers, in retiring from their short-haul routes, have concentrated on a small number of long-haul routes. The resulting fare levels have not been attractive to prospective new entrants. The excess capacity on many of these routes could also reflect that there are too many large, long-haul trunk carriers. The financial failure for some and mergers for others is a possibility before new, long-haul carriers enter. The difficulty of newly entering carriers in obtaining slots at some airports has caused to diminish the threat of competition. This lack of ready access has occurred at the popular airports in New York, Chicago and Washington, and it has acted as a constraint, particularly in the development of competition on the short-haul routes from these important centres.

In general, most incumbent carriers have exhibited managment skills more appropriate to the former regime of protective economic regulation. This is to be expected, for the reflexes of management were trained behind protective regulations, and their flexing reflects the continuing influence of the former regulations. Substantial changes in the structure will come when managements start to explore fully the possibilities of mass marketing of low-priced air transport services which deregulation has facilitated.

Notes

1. Airline Deregulation Act of 1978 as codified at 49 U.S.C., s. 138(b)(1)(B); U.S. Congress, 1978.

2. These three "hypotheses" are general hypotheses which include subsets of predictions. Perhaps the most notable exclusion from the list is that of the "cartel hypothesis," namely that the CAB, by allowing the restriction of capacity to maintain carriers market shares, the regulation of fares sufficiently high to protect innefficient carriers and the control over entry, had supported a cartel. See U.S. Department of Transportation, An Annotated Summary of the Arguments For and Against Regulatory Reform of the Domestic Airline System of the U.S., 4/25/77, p. 16.

3. Another version of this hypothesis was that the monopolist would emerge from an unregulated market in a process that would resemble destructive competition:

   "... if several firms try to compete in the industry, since average costs will be declining, marginal costs will be below average costs, and rate wars (i.e., destructive competition) will ensue until only one firm is left in the industry."

   See Theodore E. Keeler, "Domestic Trunk Airline Regulation: An Economic Evaluation, Study on Federal Regulation, Committee on Government Affairs," Appendix to Volume VI, Framework for Regulation, U.S. Senate, December 1978, 96th Congress, 1st Session, Senate Document No. 96-13, p. 84.

4. See John C. Panzar, Regulation, Deregulation, and Economic Efficiency: The Case of the CAB, American Economic Association, May 1980, pp. 311-319.

5. George W. Douglas and James C. Miller III, Economic Regulation of Domestic Air Transport: Theory and Policy (Washington, D.C.: The Brookings Institution, 1974).

6. As Douglas and Miller, op. cit., showed, service convenience, as measured by the time spent waiting for the service, is an important

dimension of the quality of service considered by passengers. For a specific market served by an aircraft of given, uniform size, scheduled delay can be specified as a function of the frequency of flights - or as a function of its derivative, average load factor. The higher the average load factor the higher the schedule delay. As capacity costs of conveyance vary little, if at all, with load factor, a rise in load factors leads to a substantial drop in average total costs per passenger. Hence, there is an inverse relationship between costs per passenger (or fare) and expected schedule delay. Thus, for a given market at a relatively high fare, equilibrium will be characterized by a high number of scheduled frequencies and low load factors. At low load factors, scheduled delays will be relatively small. Alternatively, at a relatively low fare, equilibrium will be characterized by a high load factor and a greater expected schedule delay.

The equilbrium point is where an increase in load factor would cause an increase in schedule delay and which, given the evaluation of time by passengers, costs them more than the resulting savings in lower fares. The average cost per passenger and the value of scheduled delay are equal, at which point the passenger minimizes his or her total costs of the trip. The actual fares, however, were set by the CAB. The adjustment to equilibrium on each route meant that in setting fares, the Board also set the quality of service as measured by the expected schedule delay.

7. An examination of the fares on the largely unregulated intrastate services in California and Texas showed them to be 50 to 60 percent below regulated routes with comparable characteristics. The traveller on the 400 mile trip between Washington and Boston on the regulated carrier paid $41.67, while on the 340 mile trip between San Francisco and Los Angeles on PSA the passenger paid $18.75. A further study showed the reasons given by the industry for the difference in fare level - such as different weather conditions, greater traffic density in California, less air and ground congestion, etc. - could account for a price difference of no more

than \$6, when in fact the price difference was as large as \$20 to \$30. See U.S. Senate Subcommittee on Administration Practice and Procedures, Civil Aeronautics Board Practices and Procedures (Washington, D.C.: U.S. Government Printing Office, 1975), Vol. I, pp. 443-529 and 515-16. Described in the text as the Kennedy Hearings.

8. The Board's policy with respect to mergers had one aspect which was constant. It was that it permitted a take-over of a carrier by another whenever the alternative was bankruptcy. The attraction of the merger for the acquiring carrier appeared to be primarily the value of the certificates and not the value of the assets or the labour force. See Report of the CAB Special Staff on Regulatory Reform (Washington, D.C.: CAB, 1975), p. 390. Between 1938 and 1973, the Board faced in 19 of those years a decision involving the merger of a trunk carrier. As a result of its decisions along with its refusal to let other carriers enter the interstate trunk route system, the number of trunklines fell from approximately 19 at the onset to 10 in 1975. The local service airlines decreased from a peak of 19 in 1950 to 8 in 1974. Of these, 3 were forced to exit by the CAB because it refused to renew their operating authority. In 1974, Air New England entered and increased the total to 9. See Douglas and Miller, op. cit., Table 7.4, p. 121.

9. Under the 1938 Civil Aeronautics Act the CAB exercised control on the entry of carriers by being able to issue certificates of "public convenience and necessity." In 1938, 19 "grandfather" trunk carriers obtained their route certificates. No new carriers obtained a route certificate to operate on the interstate trunk routes. Entry into the interstate routes since 1938 had been limited to carriers serving the smaller markets not operated by the trunk carriers. These include local carriers, supplemental (i.e., charter) carriers and commuter carriers.

Between 1950 and 1974 carriers filed 79 applications with the Board for certificates to operate domestic interstate trunkline services.

None were granted, and of the 79, 29 were dismissed without a hearing and 19 were denied after a hearing. See The Kennedy Hearings, op. cit., p. 79.

10. The permitted entry into new routes by carriers already possessing route certificates varied over the years. Such route expansion tended to be related to the economic condition of the industry. When there was rapid growth there tended to be an increase in route expansion. In 1966 the Board permitted local service carriers to enter medium length markets previously served exclusively by trunk carriers. This was achieved by lifting the stop-over restrictions at each intermediate calling point named on the route certificate. In the early 1970s the route expansion became more difficult. Out of some 1,800 applications for authority to serve the most travelled 100 city-pair markets in the period January 1965 to December 1974, only 142 (8 percent) were approved. Of the 89 markets where such applications were either approved or denied, 28 required an average elapsed of over two and a half years and 63 required over two years. See L.S. Keyes, A Survey of Route Entry Awards by the CAB, 1969-74, contained in Vol. 4 of the Kennedy Hearings, op. cit.

11. A statement that appears to predict such an outcome was given by Dr. George W. James, of the Air Transport Association of America in reply to a questions from Senator E. Kennedy:

> "We feel very strongly that if you had complete freedom of entry in these markets that only the larger more profitable markets would survive and only a few carriers would survive, and the value we now have in the total 58,000 city-pair markets would be destroyed, and it would not be too long until we find that our ability to get more -- to get service more than 70 to 200 pairs out of this 58,000 would be a reality. We would not be able to get more service than that." Kennedy Hearings op. cit., p. 110.

12. See Panzar, op. cit.

13. Quoted by Donald J. Lloyd-Jones, "Deregulation and its Potential Effect on Airline Operations," Journal of Air Law and Commerce, Vol. 41, Issue 4, Autumn 1975, p. 823. See also John K. Galbraith,

in a speech presented at the 36th Annual General Meeting of IATA at Montreal, in November 1980. He predicted deregulation of the U.S. industry would involve a "disasterous disruption of the fare structure, instability and perhaps even safety." Air Transport Word, December 1980, pp. 30-32.

14. See Air Transport Association of America, "Consequences of Deregulation of the Scheduled Air Transport Industry," Kennedy Hearings, op. cit., pp. 141-378.

15. Donald J. Lloyd-Jones, op. cit., pp. 821-22.

16. U.S. Congress, Senate, Civil Aeronautics Board Practices and Procedures, Report of the Subcommittee on Administrative Practice and Procedure of the Committee on the Judiciary of the U.S. Senate, 94th Congress, 1st Session, 1975, p. 68. Hereafter, this report will be referred to as the Kennedy Report.

17. According to the U.S. Department of Transporation, Air Service to Small Communities, March 1976, centres generating as few as six passengers were seen as able to support an unsubsidized and economically viable service. The centres generating 80 or more passengers were expected to be able to keep services operated by the locals, while the services provided to centres with less guaranteed traffic were seen, in part, to depend on the equipment of the locals. On such routes, the probability was that the locals with large turbo-prop and jet fleets would move out and commuter carriers would take over.

An earlier CAB study, Service to Small Communities, March 1972, Vols. I and II, estimated the minimum number of passengers able to support an unsubsidized service was 17 to 18 passengers a day. In 1974 the centres that were at risk of losing their services because they did not guarantee 17 passengers a day, numbered 50, representing 300,000 passengers - or one-sixth of one percent of the nation's passengers. The later 1976 study of the Department of

Transportation, op. cit., estimated that of these 50 points, 20 would likely retain commuter services. The losing 30 points would be expected to lose 130,000 passengers, or about one-twentieth of one percent of the nation's traffic.

18. Miller has estimated that the price elasticity of demand must be between -1.25 and -1.36 for the carrier to profitably expand capacity. See James C. Miller III, "The Effects of the Administrative Draft Bill on Air Carrier Finances," in Paul W. MacAvoy and John W. Snow (eds.) Regulation of Passenger Fares and Competition Among the Airlines (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1977).

19. For a recent survey, see Lawrence J. White, "Economies of Scale and the Question of 'Natural Monopoly' in the Airline Industry," Journal of Air Law and Commerce, Vol. 44, No. 3, 1979.

20. For a survey of this concept in the airline industry see Robert D. Willig, "Multiproduct Technology and Market Structure," American Economic Review, Papers and Proceedings, May 1979.

21. If there are economies of density of operation and economies of scope there are likely to be difficulties in identifying the source of the economies.

22. For an analysis of the dynamics of such a market see Anthony P. Ellison and E.M. Stafford, The Dynamics of the Civil Aviation Industry (Westmead, England: Saxon House, 1974).

23. U.S.C., s. 1301-1542. The statute was revised and became the Federal Aviation Act of 1958, U.S.C., s. 1301-1542.

24. A.D.A., op. cit., s. 102(4).

25. See "Report on the Automatic Entry Program." CAB Staff Study, Report on Airline Service, Fares, Traffic and Market Shares. Issue No. 14, April 1981, pp. 17-30.

26. No point, however, could be in Hawaii.

27. Oakland Service Case, Order 78-4-121.

28. A.D.A, op. cit., s. 14, 9(B).

29. A.D.A., op. cit., S. 1302(8) (Supp. 1979).

30. In 1972 commuter carriers were allowed to operate planes seating no more than 30 passengers. Under the ADA the maximum was raised to 55 seats and shortly afterwards the limit was set at 60 seats. They are also eligible to participate in the loan guarantee programme facilitating aircraft acquision. The federal government, under the auspices of the Department of Transportation and administived by the F.A.A., can now guarantee up to $100 million in loans per carrier for the purchase of new and used aircraft. See Mark Styles, "Commuter Airlines and the Airline Deregulation Act of 1978." Journal of Air Law and Commerce, Vol. 45, spring 80, No. 3, pp. 685-709.

31. A.D.A., op. cit., s. 43.

32. 1958 F.A.A., 49 U.S.C.,s. 1384. Note that the Civil Aeronautics Act of 1938 was replaced by the Federal Aviation Act of 1958. The provisions of these two acts are almost identical regarding the CAB's regulatory powers.

33. S. 408(b)(1)(B) reads in part, as follows:

> ... may be substantially to lessen competition, or to tend to create a monopoly, or which in any other manner would be in restraint of trade, unless the Board finds the anticompetition effects of the proposed transaction are outweighed in the public interest by the probable effect of the transaction in meeting significant transportation conveniences...

34. Board Order 77-2-133.

35. American "Super-Saver" Order 77-3-80.

36. See James C. Miller III, "An Economic Analysis of Airline Fare Deregulation: The Civil Aeronautics Board's Proposal," Transporation Law Journal, Vol. 10, 1978.

37. According to Keeler's estimates, based on 1974 fares, getting from these fares to "optimum" fares would entail reductions of 24 to 36 percent. These, according to Keeler, indicated how much fares "ought" to go down with deregulation. See Theodore E. Keeler, op. cit., p. 145.

38. Census of U.S. Civil Aircraft, Calendar Year 1978, U.S. Department of Transportation, F.A.A. AMS-220.

39. Handbook of Airline Statistics, Supplement, Calendar Year 1977 and 1978 (Washington, D.C.: CAB, December 1979), PB-80-138407.

40. There is a qualification, however, to the testing of the effects of deregulation, for while the extent of deregulation is substantial, the period over which the carriers have been able to respond is a short one. As a result, the responses of the carriers over this early period will probably be as affected by the incidence of the former economic regulations exercised under the 1958 FAA, as they will be to the opportunities presented by deregulation. Indeed, in the early stages, we will probably be more able to distinguish the effects of the former regulations than we will be able to discern the response of the carriers to the opportunities of deregulation.

41. Report on Airline Service, op. cit., February 1981, No. 14, p. 23.

42. Elizabeth E. Bailey, Deregulation of the Airlines: A Case Study, presented at the I.T.T. Key Issues Lecture, New York University, December 5, 1979, p. 24.

43. The growth in city-pair authority for an individual carrier is a function of both the number of existing cities on the certificates and the number of new cities added. A carrier with 100 cities on its system adds 100 city pairs when a new city is added to its certificate. A carrier with 50 cities on its system must add two new cities to add to 100 city-pair. See Report on Airline Service, op. cit., July 1980, No. 11, pp. 27-40 and February 1981, No. 14, pp. 31-34.

44. An Analysis of the Effects of Route Restriction Removal and Discretionary Authority: The Transition to a Less-Regulated Environment, U.S. Department of Transportation, Vol. I, January 1977, Table II-1, Contract DOT-OS-60155.

45. Ibid., Table II-1.

46. A. Stuart, "Braniff's Dizzying Take-off Into Deregulated Skies," Fortune, March 26, 1979. It could also be that Braniff simply made a miscalculation.

47. Handbook of Airline Statistics, Supplement, op. cit.

48. Commuter Airline Industry, 1979 Annual Report, Washington D.C., p. 83.

49. A background to the development of Midway Airlines is provided by J.A. Donoghue, "Midway Airlines: New Kid Tries Not to Provoke the Big Guys." Air Transport World, December 1980, pp. 52-58. New York Air (NYA) is a wholly-owned subsidiary of the Texas Air Corporation. It proposed to operate DC-9s in competition with Eastern by offering a $49 week-day fare between New York/Newark and Boston/Washington, which compared with Eastern's $57 and $60 fares. Another new carrier, People Express Airlines, received tentative approval by the CAB of its certification in September 1980. It intends to provide non-stop service between New York/Newark and 27 markets in the spring of 1981. Another proposed short-haul carrier, which sought CAB approval was Meuse Air. It will be based in Houston and will serve about 20 cities throughout the South and Midwest.

50. Report on Airline Service, op. cit., November 1979, No. 8, Table E-2.

51. Ibid., p. 14.

52. Report on Airline Services, op. cit., February 1, 1981, No. 14, Table 23.

53. The number of points at which a carrier has terminated all services after giving official notice have been as follows:

Year	Quarter	Number	Cumulative Total
1979	1	46	46
	2	28	74
	3	28	102
	4	39	141
1980	1	35	176
	2	29	205

Source: Report on Airline Service, op. cit., No. 11, Table 35.

54. Trends in Air Service Provided by Certificated Carriers: 1938-77, U.S. Department of Transportation, Washington D.C, March 1979, DOT-P-50-79-03.

55. Under the ADA's 419 programme, 16 carriers in the spring of 1981 were receiving subsidies for replacing services at approximately 34 points. The annual subsidies for these points total $7.7 million. Currently the CAB has 40 cases outstanding, involving compensation for involuntarily continued service while it seeks replacement carriers. Aviation Daily, January 21, 1981.

56. At the Kennedy Hearings, op. cit., it was initially claimed that Eastern had 327 "losing" city pairs. This list was then cut down to 29 route segments which were "susceptible" to loss of service. A year after the passing of the ADA, Eastern had dropped only 8 stations. In 1975 these were estimated to involve 15 unprofitable segments and five profitable segments. See CAB, Report on Airline Service, op. cit., July 1979, No. 6, Table A-6 and Paul W. MacAvoy

and John W. Snow (eds.) Regulation of Passenger Fares and Competition Among the Airlines (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1977).

57. Robert H. Frank, Productivity Gains Since Deregulation in the Airlines Industry: A Summary of Research in Progress (Washington, D.C.: CAB, Office of Economic Analysis, April 24, 1980) p. 8, calculated that this reduction allowed carriers to lower their costs by an estimated 3 percent over what they would have been if they had remained at their 1978 values.

58. See Alexander Stuart, "The Airlines are Flying in a Fog," Fortune, October 20, 1980, and "Flying a Risky New Route for United," Business Week, August 18, 1980.

59. The effect of the downturn in the economy started to show in the figures of scheduled weekly departures in January 1980. In that month they were down over the same period in the previous year at the non-hub and small hubs. By April 1980 they were down for all hubs, including the large hubs. See CAB, Report on Airline Service, op. cit., April 1, 1979, Table 4.

60. Pan. Am. estimated that it would cost them $1,250 million to build up a route network equivalent to National's from scratch, compared with Pan Am's offer of $1,350 million to buy National outright. Evidence given to the CAB in December 1978, reported by Bron Rek, "U.S. Mergers in the Melting Pot," Flight International, February 24, 1979, p. 566.

61. "The feeder networks that will be combined simultaneously with this merger would not make sense for either carrier to enter through route expansion - mainly because the points are too small. However, if these small points are linked to each other at the same time enough traffic can be developed to generate support for new flights and higher load factors. We don't need a merger to obtain access to larger cities. But there is no way that the traffic potential of

these 1,600 or so small community city-pairs can be tapped unless it is all done all at once; in other words, by merger," statement attributed to Hal N. Carr, Republic Chairman, reported by James P. Woolsey, "Republic is Trying to Prove One Plus One is More Than Two," Air Transport World, October 1979, p. 67.

62. ADA, op. cit., a. 37(6)(a). The SIFL fares were defined as the lowest predominant normal fare in effect on July 1st, 1977.

63. ADA, op. cit., s. 37(7).

64. ADA, op. cit., s. 37(c)(1).

65. CAB, Staff Study, op. cit., No. 10, April 1980, Table 30, p. 120.

66. There was a drop of almost 7 percent in real yields in 1966 and in 1974. Indeed, there were only ten years between 1947 and 1977 when the domestic yield rose more than the CPI. See CAB, Handbook of Airline Statistics. The real yields were calculated by using the CPI with the base year at 1970.

67. For details of the movement of yields see CAB, Report on Airline Service, op. cit., No. 10, April 1980, Table 30, p. 120.

68. It is also interesting to note that the action of the interstate trunks was in large part a response to the elimination of the restrictions imposed on charter carriers. In October 1976, the Board eliminated the eligibility requirement for charter travel, which had been a period of six months as a member in a CAB-recognized affinity group. The Board introduced its Advanced Booking Charter rule-making, which made it possible for any citizen to purchase a seat on a charter flight on 30 days notice. The scheduled carriers were no longer protected. One consequence was the introduction of a Super Saver fare in April 1977 by American Airlines on its New York-Los Angeles route.

69. See CAB, Fuel Oil and Consumption, various issues. Fuel expense as a percentage of operating cost per RTM for trunk carriers rose from 12 percent in 1973 to 25 percent in 1979. In the fourth quarter of 1979 it had risen to 28.4 percent.

70. The calculations were taken from Robert H. Frank, op. cit. Table 1, p. 3. In this study estimates of average production costs for the domestic trunk carriers were constructed by taking average prices and then adjustments were made for transitory profit windfalls or shortfalls. An index was also constructed for the prices the trunk carriers paid for their inputs needed to produce transport services. The difference between the adjusted index of price per revenue ton mile and the index of airline industry input prices provides an approximate measure of the gains in productivity made by the trunk sector.

Over the period 1978(3Q) to 1979(3Q), input prices rose by 212 percent and the adjusted price index rose by 12.5 percent. The gain in productivity was 7.8 percent. This was calculated as [(1.2129 - 1.1250)/1.125) x 100]. Note that the yields shown in Table 4.6 are not adjusted for profit or loss.

71. Robert H. Frank, op. cit., p. 4.

72. See CAB, Report on Airline Services, op. cit., No. 12; special feature, "Effects of Increased Fare Flexibility." The DPFI was used for purposes of comparisons as SIFL fares for all markets were not available.

73. A review of the domestic fare increases in September by the Board revealed that American, Northwest, Piedmont, Airwest (now Republic) and Ozark had filed fares which exceeded the SIFL plus flexibility. The excessive fares were rejected by the Tariff Division. See CAB, Memorandum to the Board From the Bureau of Domestic Aviation, October 14, 1980; Notice to Press, October 15, 1980.

74. CAB, _op. cit._, No. 6, Table E-4.

75. CAB, _op. cit._, No. 6, p. 15.

76. CAB, _op. cit._, No. 10, special feature, _Analysis of Tariff Normal Fares and SIFL_.

77. The growth in traffic was not achieved over all short-haul routes. The routes of 200 miles and under, for instance, have shown rapid growth during the upturn and large drops during the downturn. See CAB, _Report on Airline Services_, _op. cit._, No. 11, Tables 27 and 28.

78. The relationship between yields, load factors and profits can be illustrated by using a number of identities and by making a few simplifying assumptions:

(1) Net income = operating revenue - operating expenses - non-operating expenses - taxes

Simplifying,

(2) Operating profit = net operating income = operating income - operating expenses.

Given that yield is passenger revenue divided by revenue passenger miles, then:

(3) Operating profit = yield x revenue passenger miles - costs

Dividing (3) by the unit of available seat miles (ASM),

(4) $$\frac{\text{Profit}}{\text{ASM}} = \text{yield} \times \frac{\text{RPM}}{\text{ASM}} - \frac{\text{Cost}}{\text{ASM}}$$

$$= \text{yield} \times \text{load factor} - \frac{\text{Cost}}{\text{ASM}}$$

Hence,

(5) $$\frac{\text{Profit}}{\text{ASM}} + \frac{\text{Cost}}{\text{ASM}} = \frac{\text{Revenue}}{\text{ASM}} = \text{yield} \times \text{load factor}.$$

and so, revenue is directly proportional to yield times load factor.

Costs per ASM are mostly fixed costs, independent of load factor so long as the physical capacity of the carrier is not reached such that more aircraft are required. The variable costs associated with load factor are primarily the per-passenger handling costs for meals, ticketing and insurance.

What appears to have happened in 1980 is that the costs of the carriers had risen and demand had fallen, causing load factors to fall. In response, the carriers increased their yields by raising their fares. As demand did not pick up, this meant load factors and revenue fell. It would appear, therefore, that an increase in revenue could have been achieved by lowering costs and by reducing capacity.

79. CAB, Report on Airline Services, op. cit., No. 10, Table 8. In June 1980, there was a net loss of 122 competitive routes.

80. CAB, Report on Airline Services, op. cit., No. 11, Table 22. Between May 1979 and May 1980 the number of markets with 4 or more carriers rose by 430.

81. In the summer and fall of 1980 a number of carriers came forward as prospective new entrants. In the east there was People Express and Air International, and in the West there was Sun Pacific. Another prospective new carrier was Air Meuse. They all appeared to be aimed at operating short-haul (1,000 miles and under), high-density markets.

82. During fiscal year 1979 the number of seats per aircraft was 5.3 precent higher than in 1977 -- action which also allowed the carriers to lower costs. Robert H. Frank, op. cit., p. 12.

83. The entry of Eastern into the transcontinental market provides an interesting example which refutes the prediction that destructive competition would ensue with deregulation. After offering very low fares, Eastern increased them after six months. An Eastern official commenting on the rise, was quoted as saying:

"The economics have caught up with us. We have to go back to the real world." Henry Lefer, "The U.S. Transcontinental Route: Deregulations' Battered Child." Air Transport World, December 1980, pp. 26-28. See also Michael Feazel, "Transcontinental Fare War Yields Light Traffic Gain." Aviation Week and Space Technology, December 15, 1980, pp. 27-29.

84. Simat, Helliesin & Eichner Inc., An Analysis of the Intrastate Air Carrier Regulatory Forum: Vol. I, Submitted to the Department of Transportation, DOT-OS-60078, January 1976, p. 28.

85. There are a number of often quoted dimensions of quality associated with air travel. Among these are: variations in journey time, the time taken to handle passengers and baggage, and the number of confirmed seats that are denied (bumping). As regards the latter, the CAB changed the rules on September 3, 1978. Carriers had then to solicit volunteers to relinquish their seats when their flights were oversold. This they had to do before bumping passengers involuntarily. In July 1979 only six passengers out of 10,000 were bumped involuntarily for domestic flights compared with 7.62 in July 1978 (CAB Press Releases). As regards variations in journey time, 81 percent of flights were on time in 1977 (i.e., within 15 minutes). The average for 1978 was 73 (CAB Form 438). This decline in 1978 would appear to be closely related to the rapid growth in traffic during that year.

86. CAB, Report on Airline Services, op. cit., No. 11, Table 1.

87. Robert H. Frank, op. cit., p. 11.

88. CAB, Report on Airline Services, op. cit., No. 6, Table E-5.

89. There is over a 50 percent difference in the fuel efficiency per seat between the early non-fan jets and the Boeing 767. See Frank A. Spencer, Factors Affecting the Retirement of Commercial Jet Aircraft, A Study for NASA, Ames Research Centre, August 1979, p. 170.

Chapter 5

Lessons and Recommendations

The ADA introduced a phased deregulation of the U.S. airline industry. The policy pursued by the Board, has been one which quickly removed entry regulation and placed very wide limits on the fares that could be established by the carriers. Although fare liberalization began in 1977, entry deregulation started a year later, just prior to the passing of the ADA, and was effectively achieved early in 1979. Exit regulation has allowed carriers to allocate their equipment to routes of their choice and at the same time has guaranteed a level of service to communities who might fail to be served by unsubsidized carriers. The CAB chose a short, phased deregulation, simultaneously removing regulations from all[1] sectors of the industry.

Carriers responded to the policy of fare liberalization and deregulation by offering lower levels of fares, wider fare structures and varied qualities of service. Many carriers reallocated their equipment, adjusted their route structures and changed the seating densities of their aircraft. The resulting increases in productivity facilitated the marked drop in real yields and the containment of cost increases following the rise in fuel prices in 1979. The most marked changes have been on the dense, short-haul routes, where new, competitive carriers have entered, offering low fares and "no-frills" service.

The evidence is that rather than becoming concentrated between a few carriers, the industry is becoming less concentrated. Competition on many routes has been intense, but there is no evidence of behaviour which could be described as destructive. The excess capacity that has occurred on some routes appears to be due to contractions in demand, reflecting the general downturn in the economy. The exit and replacement of carriers on short-haul, sparsely travelled routes, has been smoothly executed. The subsidies spent to support services have been small, confirming that there are carriers able to profitably operate these routes.

In short, the prediction that the industry was not workably competitive and that it would become increasingly monopolized in a process characterized by destructive competition, has not occurred. These same predictions, however, are made by some when considering the deregulation of the Canadian airline industry. The evidence shown from the experience of the U.S. deregulation presents a challenge to those making such predictions. Reasons now have to be given as to why the Canadian industry would behave differently than the industry in the United States. The onous of proof is now on those who would maintain the direct regulation of the Canadian industry.

There are differences in the structure of the two industries, and these reflect, in part, the different regulatory policies pursued in the two countries.[2] Perhaps the most striking characteristics of the domestic Canadian airline industry is the dominant position of Air Canada. The financial and managerial strength of Air Canada poses problems if the approach adopted in the U.S. of open and simultaneous deregulation is introduced, for unlike the U.S. industry with its numerous large trunk carriers, the inherited advantages of Air Canada must be considered. Not only have the regionals been protected by the C.T.C., but Air Canada has also restrained itself from engaging in full competition on a number of routes where it might have done so. In the context of unrestricted competition, there is also the question of whether a government owned carrier would be in an advantageous position financially vis-à-vis privately financed carriers in that the former would be able to obtain subsidies from its owner.

Although the U.S. trunks engaged in some cross-subsidization, there is evidence to suggest that over time they divested themselves of their unprofitable routes. These in turn were operated by local carriers, who had the more appropriate equipment for these routes. It was this earlier divestment of unprofitable routes which explains why the trunks dropped so few routes in the early phase of deregulation. In the past, Canadian policy had been to protect government owned Air Canada from competition in return for providing services which could not be expected from a profit maximizing, privately owned carrier.[3] Although Air

Canada is thought to operate some unprofitable routes in the Maritimes and in Northern Quebec and Ontario, over the years it has steadily dropped many of its unprofitable routes and these, for the most part, have been operated by other carriers.[4] If Air Canada -- and the other national and regional carriers were to drop routes following deregulations, there is every reason to expect other carriers, as they have in the past, will find such routes profitable.[5]

As for the routes operated by the local carriers in the southern zone of Canada, open entry will probably attract a number of new carriers, willing to compete with existing operators. In the U.S. this sector has shown rapid growth, in part due to the cost advantages that small aircraft have enjoyed over automobiles on short routes. This advantage has increased with the rapid rise in gasoline prices over the last two years in the U.S. A rise in gasoline prices in Canada would also add to the inherent advantages of the commuter carriers.

The constraints that could act upon the long run development of a deregulated industry are somewhat different in Canada to those in the U.S. Due in part to the government ownership of the airports in Canada, it is improbable that new carriers -- or those seeking new routes -- would find difficulty in entering due to lack of counter space or time slots at airports. While at the peak some of the major airports face congestion and others experience difficulties with the weather, for the most part airports in Canada operate under considerable excess capacity. The effect of general economic growth on the industry is a factor which has effects irrespective of the presence or lack of regulation. In the long run there is no reason to expect Canadian carriers will find it any more difficult to raise capital than any other unprotected industry in Canada, even though, as in the U.S., they will probably require more equity financing than they have in the past.

Policy Recommendations

Introduction

The economic regulation and public policy concerning air transport in Canada has achieved many of its objectives over the past four and one-half decades. It has created a large, smoothly functioning, reliable air transport network. Even small and isolated centres are part of the air travel network. By most international comparisons, fares are not exhorbitant and the quality of service in most cases is admirably high. Air Canada, started from scratch in 1937, will have revenues of almost $2 billion in 1980. It is no longer a "fledgling" airline that needs to be protected. If it operated in the United States, it would be the eighth largest carrier.

The fundamentals of public policies need to be reassessed from time to time. The types and forms of intervention appropriate in one era may become either superfluous or a net burden in a different one. They may simply outlive their usefulness. No one would argue that the economic and social conditions of 1980 are similar to those of the late 1930s when the components of the regulatory framework were put in place. To a considerable degree, the regulations and policies have been modified to reflect changing objectives and conditions. Emphasis has been given to the significant reductions in regulatory restrictions occurring since the mid-1970s. Even greater net benefits, however, can be received by careful steps toward complete economic deregulation of air transport in Canada. Conditions warrant a change in public policy.

The deregulation of price and entry controls on the Canadian airline industry will have two net beneficial effects. It will lead to a wider choice of fares and quality of service and it will result in gains in efficiency. With respect to the former, on the high volume routes, it is probable that the fare level will drop, for passengers are expected to trade lower prices for lower qualities of service. "Regulation" by market forces will lead to gains in efficiency. Equipment will be applied to routes to which they are appropriate. The actual entry of carriers and the threat of entry will serve to bring fares into line with costs of producing the services. The direct costs of the regulatory process to the carriers -- the costs of dealing with the CTC[6], the delays in receiving price and route authorization absorbed by the carriers -- are all expected to be reduced following deregulation.

The airline industry in Canada is potentially a workably competitive industry. Deregulation is the agent through which regulation of entry and fares by regulatory commissions is replaced by the market. Consideration has to be given, however, to the adjustments that will take place following deregulation. Some communities may experience a cessation of service. For those settlements where there are no alternative modes of transport, steps must be taken to avoid such cessations. Others may experience a drastic reduction in the quality of service and even substantial increases in fares. It is probable that such communities are presently served by carriers which engage in cross-subsidization. In these cases, consideration should be made of the possibility of replacing the internal, indirect subsidies provided by the carriers engaged in cross-subsidization, by instituting subsidies which are explicitly stated and directed at the effected communities. It is important to note that these direct subsidies may not be substantial. In the U.S., for instance, the direct subsidies paid to carriers to operate the "essential air services" specified in the <u>ADA</u> was estimated to come to U.S. $9.4 million in 1980. The subsidies have been low because replacement carriers have been able to profitably operate the routes.[7]

In any event, it is essential in both formulating the new policy and in carrying it out that "the tail not wag the dog." In other words, the concern for communities that may lose service or see smaller turboprop aircraft (i.e., a local service carrier) replace larger jet aircraft (flown by a regional or Air Canada) must <u>not</u> outweigh the net benefits received by the overwhelming majority of Canadian air travellers as a result of deregulation. Provincial or civic hubris and the previous practice of having other air travellers foot the bill through internal subsidies must not prevent a more efficient restructuring of air transport in Canada. If the case for a direct subsidy has merit, no doubt Parliament will provide the necessary funds.

Detailed Recommendations

Recommendation 1

It is recommended that restrictions on entry into the Canadian airline industry should be changed in the following ways:

- any new or existing Canadian carrier, including charter carriers should be able to enter freely and serve any point now served by Air Canada or CP Air;
- any new or existing local carrier should be able to enter freely and serve any point now served by any regional carrier;
- any new or existing carrier may serve any new point not now served by a national, regional, or local carrier; and,
- either national carrier may freely serve any point now served by the other.

This recommendation embodies a "one-way swinging gate" approach under which any existing or new regional or local carrier may freely enter and serve any point now served by CP Air and Air Canada, but neither of these airlines may enter routes now served by a regional or local carrier. The two national carriers are free to serve any new point or any point now served by the other.

The purpose of this asymmetric approach, which would operate for a medium term of perhaps four years, is to give the previously protected and weaker regional and local service carriers time to adjust without having to face greater competition on their own routes from the larger, financially stronger national carriers. At the same time, the recommendation opens to any carrier the right to serve a point not now served.

With the exception of two routes served by Nordair and Pacific Western Airways, transborder and other international routes are divided between Air Canada and CP Air. More competition on transborder and international routes is as desirable as it is on domestic routes. It is recognized, however, that bilateral agreements to give Canadian carriers greater access to foreign destinations will require reciprocity. Where only one Canadian carrier can be accommodated in a bilateral agreement, the CTC should permit carriers to bid on the routes. Therefore,

Recommendation 2

It is recommended that, subject only to the constraints imposed by the United States or other national authorities, entry into transborder or international service should be unrestricted for Canadian carriers.

As has been shown, even where two or more carriers serve a domestic route, restrictions on service imposed by the CTC limit the nature and extent of competition. Informal agreements serve the same purpose. It is considered that the market is a preferable and more efficient determinant of the nature and extent of inter-carrier competition that will provide new fare and service offerings. The failure to eliminate service restrictions is contradictory to a policy of freer entry. Therefore,

Recommendation 3

It is recommended that all existing restrictions on service imposed on Canadian carriers be removed immediately. Similarly, all "accommodations" or informal understandings between carriers that reduce competition among them should be prohibited under the provisions of the Combines Investigation Act.

To achieve the maximum efficiency benefits from regulatory liberalization, it is necessary to match particular air routes with the appropriate technology and level of service. Internal subsidies for lighlty travelled routes are made possible by controlled entry and limited competition. With freer entry, Air Canada and perhaps some of the regional carriers, can be expected to give up routes that are unremunerative. In many cases a local carrier will take over these routes with smaller aircraft better suited to the volume of traffic and length of the route. Where this does not occur, it is recognized that the federal government -- or in some cases a provincial government -- may wish to maintain the service. The abandonment procedure outlined here is designed to facilitate an orderly transition from larger to smaller carriers or from internally subsidized to government subsidized service. The experience in the United States leads us to the expectation that this transaction will be orderly and inexpensive. Therefore,

Recommendation 4

It is recommended that abandonment of existing points be subject to the following conditions:

- o public notice of intention to abandon service be given no less than four months prior to the proposed date of abandonment;

- o if during this period no other Canadian carrier indicates its desire to serve the point following its abandonment, the CTC may, at its discretion, require service to be maintained at its usual level for up to an additional four months; and,

- o where no carrier wishes to serve the route to be abandoned, the CTC, upon the request of the Minister of Transport, will seek to effect a contract with a carrier to provide a level of service specified by the Minister subject to the payment of a subsidy to the carrier by the Department of Transport.

Freedom of entry is considered the primary protection against price exploitation of the consumer by the air travel industry. In shifting from regulatory control to control through the exercise of market forces, the need for flexible pricing and service provided by the carriers is recognized. Until entry is completely unrestricted, however, some limits need to be placed on the fares set by the carriers to ensure that the public interest is protected. Therefore,

Recommendation 5

It is recommended that all national, regional, and local carriers may establish such fares as they see fit, subject only to the conditions that previously established tariffs may not be increased by more than an annual rate established by the CTC without the approval of the CTC.

It is recognized that if fuel and other costs continue to rise at the same rates as they have done in the late 1970s, substantially higher fares may be necessary. Fare increases, however, of more than the accompanying rate of inflation require the approval of the CTC. In setting the lower limit for fares, which in theory should be an airline's short run marginal cost, the CTC will note that seat sale, SkyBus, CCCF, and charter fares ranged from about 35 to 60 percent of the comparable economy fare. New fares below the maximum discount would require the approval of the CTC.

The history of the regulations governing domestic and international charter flights shows that they have been unnecessarily restrictive. Progressive reduction of the constraints on charter operations has not diverted many regular fare travellers and has significantly stimulated new air travel demand. There appears to be no reason why Canadian domestic and international charter regulations should be more restrictive than those currently operating successfully in the United States. Therefore,

Recommendation 6

It is recommended that all regulations concerning domestic and international charter operations and charter-class fares should be made less restrictive so as to foster as much competition as possible between charter and scheduled carriers. In particular, the minimum stay requirements and the advanced booking requirements should be reduced and intermingling of various types of charter groups permitted.

Both the judicial decisions regarding mergers under the Combines Investigation Act and those by the CTC under the National Transportation Act are insufficiently restrictive to protect the public interest against the potential adverse effects of airline mergers. Since Canadian air travel markets are served by only one to three carriers, it is essential that a tough stance be taken against airline mergers. It is also essential that arguments claiming efficiency improvements presented by those seeking a merger be scrutinized with great care. Furthermore, even when two carriers that do not compete on the same routes propose to merge, considerable weight must be given to the possibility that they may enter each others markets as competitors in the future. Therefore,

Recommendation 7

It is recommended that Section 27 of the National Transportation Act concerning mergers and acquisitions among air carriers should be amended so as to incorporate section 31.71 of Bill C-13, given First Reading in Parliament on November 18, 1977. The role of the proposed Competition Board would be performed by the CTC if such a Board has not been established. Alternatively, if such a board is established to deal with mergers in general, the CTC should be relieved of any jurisdiction over airline mergers and such jurisdiction should be vested with the new Competition Board.

The concern is that larger and stronger carriers not be able to use the power of their inherited position to curb the competitive initiatives of other carriers by unfair means. Although the belief is that predatory behaviour will not be widespread, it is desirable to be forearmed. Therefore,

Recommendation 8

It is recommended that the relevant statutes should be amended to incorporate a provision disallowing predatory or discriminatory pricing and flight scheduling behaviour along the lines now embodied in section 34 of the Combines Investigation Act. Alternatively, section 34 could be amended to include predatory behaviour in the airline industry, and jurisdiction could be transferred from the Canadian Transport Commission to the Combines Investigation Bureau and the courts.

Although proving an offence under section 34 is very difficult, it would provide a convenient basis after amendment to include "excessive scheduling" as well as predatory or discriminatory pricing, for dealing with this potential problem.

Another concern is that a government-owned enterprise can, potentially at least, have a much "deeper pocket" than a private one through its access to government revenue. Fair competition demands that all the competitors be constrained by the market -- including those of the capital market. It is the ultimate sanction on inefficiency and ineffectiveness. While the 1977 Air Canada Act almost cut the umbilical cord between the airline and the federal government, freer entry and greater flexibility in setting fares must not be undermined by government-owned carriers drawing on the federal treasury. Therefore,

Recommendation 9

It is recommended that in order to ensure that competition among all Canadian carriers is as fair as possible, government-owned carriers should neither be favoured nor restricted in their response to market developments by the government that owns them. In particular, this implies that such airlines should,

- be operated according to sound business principles designed to ensure the highest long-term profitability;

o not be favoured in their government's policy towards air travel by government employees;

o not be able to call upon additional government financing of persistent deficits; and,

o be reimbursed by an overt subsidy on a non-discriminatory basis for the operation at a higher level of service or on routes it would not otherwise serve.

These recommendations provide a pragmatic basis for making the transition over about four years from a system of detailed regulation to total deregulation of Canada's air transportation industry. Before the final steps are taken to achieve unrestricted entry, fares, and charters regulations, an assessment should be undertaken of the performance of the industry under a far less restrictive regulatory regime. Perhaps more time will be needed to make the adjustment to greater reliance on market forces. If the structural adjustments flowing from open entry have largely been accomplished, it is the view that by the end of about the fourth year Canada should cease direct regulation of the air transport industry. Instead, the industry would be subject to the forces of competition and to the general legislative prohibitions against anti-competitive behaviour embodied in competition policy statutes. Therefore,

Recommendation 10

It is recommended that prior to the introduction of the less restrictive regulations proposed here, the CTC and the Department of Transport in cooperation with the carriers, should establish a system to collect information on the effects of the new rules proposed here. Then during the fifth year of operation under the new rules the CTC and the Department of Transport should retain a group of independent consultants to assess the results of the new rules. The consultant's report should be tabled in Parliament immediately following its completion not later than the end of the sixth year of operation under the new rules. This would provide the consultants with five years of data with which to examine the effects of the experiment.

The removal of regulation and its replacement by competition will not solve all the problems of air transportation in Canada. Unrestricted competition is not by itself sufficient to meet all economic and social objectives. Nonetheless, with unrestricted entry and only limited economies of scale, it is foreseen that the self-regulating effects of market forces will provide a greater choice of fares and services for consumers, increased pressures to keep costs down, and greater pressure and opportuntiy for innovation. Equally important, a more competitive, less protective environment will facilitate the adaptation of the nation's air transportation system to the changing requirements and transportation modes of future generations.

Notes

1. The federal economic deregulation of domestic air cargo occurred a little earlier, in 1977, with the passing of the Deregulation of Air Cargo Service, P.L. 95-163, 1977.

2 For an exhaustive study of the major reason why Canadian carriers may perform differently from their U.S. counterparts, see William Jordan, Performance of Regulated Canadian Airlines in Domestic and Transborder Operations, Research Monograph, Bureau of Competition Policy, Department of Consumer and Corporate Affairs, in process.

3. Despite the injunctions to follow "sound business principles," and to plan its activities "in ... the contemplation of profit," it is not clear whether Air Canada is still expected to operate unremunerative ("social") routes. Section 8 of the Air Canada Act, 1977 states that the airline must "comply with directions of a general nature given to it by order of the Governor in Council." Under S. 9, however, it is made clear that the Cabinet may compensate the airline for losses incurred as a result of compliance with an order under S. 8. These provisions seem to suggest that where the federal government wants the airline to serve unremunerative routes it is prepared to pay a subsidy. This alternative, however, may be blocked by the language of S. 8 which speaks of "directions of a general nature" from the Cabinet. A specific route or even a number of routes may not fall within the meaning of this provision of the Act.

4. The national and regional carriers added a substantial net number of points during the period 1966-78. The points dropped by the regionals were served mostly by local service carriers in co-operation with -- or under contract to the regional carrier. Very few points were left without service when dropped by a regional carrier. See Pam Cooper, Entry and Exit in the Domestic Air Transport Industry, Research Branch, Bureau of Competition Policy, Department of Consumer and Corporate Affairs, in type. Tables IX, page 41 and Table X, page 44.

5. In the case of the Maritimes, however, possible difficulties could raise because there is no alternative local carrier to E.P.A. In the short-run this could cause difficulties of adjustment.

6. "The tariff filing (of the CTC) was seen as far too time consuming, cumbersome and expensive, and often responsible for lost revenue and missed marketing opportunities. One respondent was emphatic on the latter score, stating that CTC suspensions of fare increases in recent years had typically cost the company $200,000 per moth in lost revenues; that fare filing in one day's notice were often held up for several weeks; and that short-notice promotional fare filings often had to be withdrawn after several weeks of difficulties in trying to have them take effect. Procedural reform was seen as essential."

Economic Regulation and Competition in the Domestic Air Carrier Industry. Transport Canada, Ottawa, February 1981, draft discussion paper, p. 288.

7. The subsidies incurred in 1979 to implement Section 419 of the ADA totaled $507,000. These were projected to rise to $9,400,000 in 1980. The total subsidies, including subsidies to local service carriers and the regionals came to $72,900,000 in 1979. The estimates, for the 1981 financial year, under Section 419, came to $20,200,000, of which $8,000,000 was for compensation for involuntary continued service. The respective estimates for 1982 were $58,000,000 and $30,800,000:

$US'000	Financial Year 1981	Financial Year 1982
Section 406 Subsidy		
Local Service	71,800	69,000
Regional	9,200	8,600
Alaska	10,300	10,900
Adjustment to Prior Year Subsidy	2,700	
Subtotal	94,000	88,500
Section 419 Subsidy		
Normal	12,200	27,200
Hold in supply	8,000	30,800
Subtotal	20,200	58,000

Source: Aviation Daily, January 21, 1981.

Glossary of Terms

The following is a list of some of the terms used in the text which the general reader may have difficulty in comprehending. It is important to note, however, that most of the definitions of the terms included here have no legal force or official status.

Aircraft miles or plane miles. The miles (computed in airport - to - airport distances) for each inter-airport hop actually completed, whether or not performed in accordance with the scheduled problem.

Aircraft, wide bodied. A generic and commonly used term applied to any end all of the newest generation of jet aircraft (turbo-fans) with a fusilage diameter exceeding 200 inches and whose per engine thrust is greater than 30,000 pounds.

Aircraft revenue hours. The airbourne hours in revenue service, computed from the moment an aircraft leaves the ground until it touches the ground again.

All-cargo carrier. One of a class of air carriers holding certificates of public convenience and necessity, issued by the CAB authorizing the performance of scheduled air freight, express and mail transportation over specified routes, as well as the conduct of nonscheduled operations, which may include passengers.

All-cargo service. Transport service established primarily for the transportation of freight and express, and could include mail.

Automatic market entry. After the first business day of each of the calendar years 1979, 1980, and 1981, an air carrier may apply to the Board to engage in nonstop service between any one pair of points in interstate or overseas air transportation. However, no air carrier may apply if any other air carrier has filed written notice to the Board to preclude any other carrier from obtaining that same authority. An air carrier can only protect one pair of points by precluding all other carriers from obtaining authority between a particular pair of points.

Available seat-miles. The total of the products of aircraft miles and number of available seats on each flight stage, representing the total passenger-carrying capacity offered.

Available seats. The number of seats installed in an aircraft (including seats in lounges) exclusive of any seats not offered for sale to the public by the carrier, and inclusive of any seat sold.

Available seats per aircraft. The average number of seats available for sale to passengers, derived by dividing the total available seat-miles by the total aircraft revenue miles in passenger service.

Available ton-miles. The aggregate of the products of the aircraft miles flown on each flight stage multiplied by the available aircraft capacity (tons) for that flight stage representing the traffic-carrying capacity.

Cargo revenue ton-miles. All traffic, other than passengers, times the miles transported in revenue service. Includes freight, express, mail and excess baggage.

Carrier. Generic term used interchangeably with airline.

Certificated route air carrier. One of a class of air carriers holding certificates of public convenience and necesity, issued by the CAB, authorizing the performance of scheduled air transportation over specified routes and a limited amount of nonscheduled operations. This general carrier grouping includes the all-purpose carriers (i.e., the so-called passenger/cargo carriers) and the all-cargo carriers, and comprises all of the airlines certificated by the Board, except the supplemental air carriers. Certificated route air carriers are often referred to as "scheduled airlines," although they also perform nonscheduled service.

Cities. Communities that are terminal points on an origin-destination trip.

City pair. The terminal communities in an air trip, i.e., the origin and destination on a one-way basis.

Coach passenger revenues. Revenues from the air transportation of passengers at fares and quality of service below first-class service.

Coach service. Transport service established for the carriage of passengers at fares and quality of service below that of first-class service.

Commuter air carrier. Means an air-taxi operator which performs at least 5 round trips per week between two or more points and publishes flight schedules specifying times, days of the week and places between which such flights are performed or transports mail by air pursuant to a current contract with the Post Office Department.

Domestic trunks (domestic trunk operations). Domestic operations of the domestic trunk carriers. Effective 1/1/70 in accordance with the new 50-States definition for "domestic operations" this group of carriers operates primarily within and between the 50-States of the United States and the District of Columbia over routes serving primarily the larger communites. Designation of the domestic "grandfather" carriers as "trunk carriers" was not pertinent until 1945-6, when "feeder" carriers (now called local service carriers) were granted certificates by the Board to perform local feeder service.

Economy service. In domestic operations, transport service established for the carriage of passengers at fares and quality of service below coach service. In international operations, economy is the generally used term for coach service having taken the place of the term "tourist service."

Essential air transportation. Scheduled air transportation of persons to a point provided under such criteria as the Board determines satifies the needs of the community concerned for air transportation to one or more communities of interest and insures access to the nation's air transportation system.

Hub, large. A large hub contains one percent or more of the total passenger enplanements (all operations and all services) that are generated in the United States and its territories by certificated route air carriers. A hub is a city(ies) and/or Standard Metropolitan Statistical Areas (SMSA). An SMSA is a country that contains at least one city of 50,000 population, or twin cities with a combined population of at least 50,000, plus any contiguous counties that are metropolitan in character.

Level. "'Level I carrier' means Air Canada or Canadian Pacific Airlines Limited carrying on business under the firm name and style of CP Air;

"'Level II carrier' means Pacific Western Airlines Limited, Transair Limited, Nordair Ltd., Quebecair or Eastern Provincial Airways (1963) Limited;

"'Level III carrier' means a Canadian air carrier that

1. is not a Level I, II or VI carrier; and
2. in the two years immediately preceding the year for which a report is made pursuant to this Part
   (a) had gross annual revenues derived from air transportation of at least $1,000,000 including unit toll and charter and contract revenues, but not including specialty flying revenues, or
   (b) had gross annual unit toll revenues of at least $300,000;

"'Level IV carrier' means a Canadian air carrier that

1. is not a Level I, II, III or VI carrier; and
2. had, in the two years immediately preceding the reporting year, annual gross flying revenue of at least $300,000;

"'Level V carrier' means a Canadian air carrier other than a Level I, II, III, IV or VI carrier.

"'Level VI carrier' means a Canadian air carrier, classified as Class 6 and known also as a 'Flying Club'."

Local service carriers. Certificated domestic route air carriers operating routes of lesser density between the smaller traffic centers and between those centres and principal centres.

Operating expenses. Expenses incurred in the performance of air transportation. Includes direct aircraft operating expenses and ground and indirect operating expenses.

Operating profit or loss. The profit or loss from performance of air transportation, based on over-all operating revenues and over-all operating expenses. Does not include nonoperating income and expenses or special items and is before income taxes.

Passenger-mile. One passenger transported one mile. Passenger-miles are computed by the summation of the products of the aircraft miles flown on each interairport flight stage multiplied by the number of passengers carried on that flight stage.

Passenger enplanements. The total number of revenue passengers boarding aircraft, including originating and stop-over or on line transfer passengers.

Passenger revenues. Revenues from the transportation of passengers by air.

Passenger service expenses. Costs of activities contributing to the confort, safety, and convenience of passengers while in flight and when flights are interrupted. Includes salaries and expenses of cabin attendants and passenger food expense.

Passenger revenue ton-mile. One ton of revenue passengers weight (including all baggage) transported one mile. The passenger weight standard for both "Domestic" and "International" operations is 200 pounds.

Permissive authority. Authority issued by the Board to air carriers between two points which allows a carrier to determine whether or not it will operate. If the carrier chooses to utilize this authority, the carrier determines what level of service it will provide.

Revenue aircraft miles. The total aircraft miles flown in revenue service.

Revenue passenger load factor. The percent that revenue passenger-miles are of available seat-miles in revenue passenger services, representing the proportion of aircraft seating capacity that is actually sold and utilized.

Revenue passenger-mile. One revenue passenger transported one mile in revenue service. Revenue passenger-miles are computed by summation of the products of the revenue aircraft miles flown on each interairport flight stage multiplied by the number of passengers carried on that flight stage.

Revenue yields for scheduled freight and express. The relation of ton-miles of freight and express to applicable revenue. Expressed as a yield in cents per ton mile.

Scheduled service. Transport service operated over an air carrier's certificated routes, based on published flight schedules, including extra sections and related nonrevenue flights.

Supplemental air carrier. One of a class of air carriers now holding certificates, issud by the CAB, authorizing them to perform passenger and cargo charter services supplementing the scheduled service of the certificated route air carrier. Supplemental air carriers are often referred to as "nonskeds," i.e., nonscheduled carriers.

Unit toll transportation. Transportation performed under the following classes of licence as issued by the Air Transport Committee of the Canadian Transport Commission:

Class 1 or Class 8, scheduled service. Required to provide public transportation of persons or goods by aircraft, serving points in accordance with a service schedule and at a toll per unit.

Class 2 or Class 9-2, regular specific point service. Required to provide, to the extent that facilities are available, public transportation of persons or goods by aircraft, serving points in accordance with a service pattern and at a toll per unit.

Class 3 or Class 9-3, specific point service. Offer public transportation of persons or goods aircraft, serving points consistent with traffic requirements and operating conditions and at a toll per unit.

Unused authority (dormant authority). If an air carrier is authorized to provide round trip service nonstop each way between two points and if such an air carrier fails to provide at least a minimum of service as prescribed by the new Act, the Board shall issue a certificate to the first applicant who qualifies. Unused authority may also be issued to an air carrier between points where service has been provided if the service has been provided by no more than one other carrier.

U.S.-flag carrier or American-flag carrier. One of a class of U.S. Air Carriers holding a certificate of public convenience and necessity or other economic authority issued by the CAB (approved by the President) authorizing air transportation between the United States (and/or its territories) and one or more foreign countries.

Weight load factor. This ratio is calculated by dividing: (a) the number of revenue ton-miles by the total number of available ton-miles, or, (b) the number of revenue tonne-kilometres by the total number of available tonne-kilometres.

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