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Competition, Monopoly, and Transportation Efficiency: Some Lessons from Canadian Airline Development

*by Ralph F. Harris**

COMPETITION, as a means of ensuring the most beneficial results for the public from industrial performance, has a long and distinguished history in economic literature.[1] Over a century ago the principal authority of the time on classical political economy declared that ". . . competition may not be the best possible stimulus, but it is at present a necessary one, and no one can foresee the time when it will not be indispensible to progress."[2] More recently some economists, notably those of the Chicago School, claim that it is a sufficient device for the social control of industry. They regard both monopoly and public regulation as impediments to the effective resolution of economic affairs through markets in a manner that serves the public interest.[3] Support for the use of competition is not surprising when recognition is given to what competition is supposed to do. Theory has demonstrated that it:

1. Stimulates efficiency in economical methods of providing services.
2. Affords users of these services a sufficiently differentiated range of qualities and types of services from which to choose.
3. Encourages the development and introduction of new methods of service.
4. Diffuses the benefits of industrial progress to users of the service in lower prices and to workers through higher real rewards.
5. Provides some freedom of opportunity as an end in itself.

These conclusions have been, of course, subject to debate, especially the third.[4] Their underlying rationale is the efficient allocation of resources in terms of user demands through markets.

Within the practical confines of commercial aviation, important support can also be found for competition. The United States embodied a presumption in favour of competition in its air transport legislation. An authoritative British report on air transport presents the following case:

> In a regulated system competition is itself an important instrument of regulation: a means by which the licensing authority may maintain a check on the efficiency of airlines which have been granted the protection of a licence. As a means of measuring the efficiencies of licensed airlines the existence of competing airlines provides the regulatory authority with yardsticks for which it is extremely difficult to find adequate alternatives. But over and above this advantage, we think that competition is the most effective way by which the travelling public may be assured that they will get comfortable and efficient service; that there will be enough capacity; that they will gain the advantages of technological advances; and, perhaps most important, that they will be able to enjoy the satisfaction of being able to choose between alternative carriers. All of us are aware of the frustrations of dealing with monopoly suppliers and some of us have had experience of the difficulties and disadvantages, in terms of public relations, of being monopoly suppliers.[5]

And yet, monopoly has enjoyed a substantial measure of support. It would not be surprising to find such support among firms seeking monopoly power for their own advantage. The support ranges beyond that. In theoretical economics a major source of strength is found in arguments that monopoly, monopolistic conditions, or large size are conducive to innovation and, hence, supportive of economic development.[6] Also, it is argued that economies of scale will in some industries lead, through the very process of competitive rivalry, to a monopoly position.[7]

But the answers for us lie in the theoretical rationale for regulating transport industries and in the long established practice of governments to use air transport as an instrument of national purpose.[8] This "chosen instrument" approach has often been associated with monopoly and is usually premised on

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some wish to support structural change in a part of a nation's economy and/or to support political or social objectives. This contrasts with the fundamental concern with allocative efficiency in a context of commercial efficiency found in justifications of competition. Since efficiency implies some kind of maximization of a ratio between output and input it is clear that transportation efficiency is unavoidably ambiguous as the output which is sought may not only be multifaceted but may also have components which are, at least in part, contradictory. A further complication lies in the immeasurability of some objectives.

Additional insight into the support of monopoly is found in the concept of "natural monopoly," which is often adduced to justify regulation. This conventional position is primarily based on an economies of scale argument, specifically that unit costs are sufficiently lower when supply is in the hands of a single firm that monopoly is justifiable provided that it is regulated. There does not seem to be sufficient evidence of economies of scale in airline operation of such a magnitude that a natural monopoly condition is arguable. We must look elsewhere for sources of monopoly. Most airline routes, however, have insufficient volume to support more than a few operators.

Other elements of a regulatory rationale which reveal why competitive markets do not sufficiently support a "public interest" solution for governments are:[9]

1. Systems effects
2. External economies
3. Benefits of availability and continuity of service.

System effects—These effects occur when the extension of a system of facilities increases benefits to users. Examples are found where route additions to a system provide users with more extensive travel possibilities or where feeder routes support mainline utilization.

External economies—External economies occur when the economics of particular firms or economic sectors depend not only on the inputs they use but also on the output of another firm or group of firms. These effects are important in transport development. Improvements in transport availability and/or costs can improve the economics of a user firm both through its markets and its supply sources. Such effects can be significant in regional or national economic development.

Benefits of availability and continuity of service—The benefits of availability of service usually imply costs to the supplier and the provision of additional capacity and are gained through the utility of "on demand" passenger service or goods supply. Continuity of service is important to settlement and to durable investment commitments by firms.

Satisfaction of these requirements condition government policy on air transport away from competitive market solutions which may not produce these benefits through the market system. The result is likely to be a regulated monopoly, duopoly, or oligopoly in air transport.

Attempts to provide the benefits just enumerated and discussed along with the market benefits of competition understandably lead to compromise in the form of the provision of service under conditions of duopoly or oligopoly. The reconciliation of the two types of benefits produces new problems which are revealed in the complexities and perversities of duopoly and oligopoly analysis (i.e., where the industrial structure has two or a few sellers).[10] Rivalry under the conditions of these industrial structures can be cost-increasing and can produce misallocation of resources. On occasion the rivalry may produce results that are similar or identical to those to be expected under monopoly. Alternatively, the rivalry may become destructive, produce structural instability, and threaten service, system and other benefits that were sought from the industry.

With these analytical comments in mind an examination of major elements in Canadian airline experience should provide insight into the essential nature of Canada's search for an air transport system which most efficiently serves the public interest.

THE MAINLINE SYSTEM

An early attempt by the Canadian Government to form the basis of a national airline system followed precedents set by other countries. In 1930 the Government supported the formation of Canadian Airways Limited ". . . to consolidate into one strong national group all those companies in Canada which were holding contracts and operating inter-urban mail services."[11] The eventual objective was to obtain air transport operation from Halifax to Vancouver. The attempt was abortive, as all inter-urban contracts held by Canadian Airways were "summarily cancelled" without allegation of fault or, indeed, compensation.

In the following years the need for an all-Canadian transcontinental system became acute. Commercial considerations and the proximity of a developing system of United States trunk lines threatened to divert Canadian east-west airline traffic into the United States by means of feeder services drawing on Canadian cities. Fundamental to the problem was Canadian unity, while long range considerations of Canada's place on international air routes across the Atlantic and Pacific oceans were also present.

The solution provided by the government was direct intervention to develop a comprehensive system of air transport for Canada. Initially an attempt was made to combine Canada's major transportation interests to sponsor a new enterprise designed for this task. The government invited Canadian National Railways, the Canadian Pacific Railway Company, and Canadian Airways to provide capital and assume ownership and control, in concert with the government, of the new company, Trans-Canada Air Lines (now Air Canada). Airports and necessary communication system support were to be provided by the government. The three component companies were to share equally in the ownership of TCA and each was to have two directors with three others to be appointed by the government. The Canadian Pacific Railway Company and Canadian Airways objected to the government representation and withdrew from the project. In 1937 Trans-Canada Airlines was founded as a Crown Corporation with CNR financial and directorship participation.

TCA began operations in 1937 on the Vancouver-Seattle route which it took over from Canadian Airways and later initiated training flights between Winnipeg and Vancouver.[12] When the government established a specialized regulatory agency for air transportation in 1944, the Air Transport Board, provision was made for licensing of route applications from TCA without regulatory discretion. The TCA contract,[13] the basic operating agreement between the airline, subsequently confirmed the transcontinental system which was already in operation.

Canadian Airways decided to concentrate on efficient "bush" operations in northern Canada. This move was soon to interlock with plans of the Canadian Pacific Railway Company which, it is interesting of note, had obtained a Dominion Charter in 1919 with provision for the ownership and operation of aircraft "within and without Canada." Beginning in 1940 the CPR acquired a controlling interest in Canadian Airways, now active throughout most of Canada, and complete ownership of nine other airlines. The result was that the CPR was judged to have achieved ". . . by the end of 1941 a monopoly in the field of transportation by air except for Trans-Canada Air Lines."[14]

The government permitted the consolidation of the airline industry but its concern about private economic power was reflected in the delay until late in 1944 of route licensing to the new Canadian Pacific Airlines (now CP Air).

Attempts by Canadian Pacific Airlines to gain licences in direct competition with TCA, however, challenged the basic government philosophy of airline development. Prime Minister King replied on April 2, 1943 by making a definitive statement on airline policy which included the following comments:

> Trans-Canada Air Lines will continue to operate all trans-continental systems, and such other services of a mainline character as may from time to time be designated by the Government. Competition between air services over the same route will not be permitted whether between a publicly-owned service and a privately-owned service or between two privately-owned services. There will remain a large field for the development of air transport in which private Canadian companies may participate, and, while preventing duplication of services, the Government will continue to encourage private companies to develop services as traffic possibilties permit.

Furthermore, the Prime Minister reaffirmed the policy that Trans-Canada Air Lines was the ". . . sole Canadian agency which may operate international air services."

A change in the status of Canadian Pacific Airlines was, however, initiated soon after the Second World War on the basis of the Air Transport Board's review of commercial air services.[15] The Board distinguished between services which require large-scale operations and pioneering or local service operations with differing needs in size of aircraft, staffing and finances. Canadian Pacific Air Lines was, along with Maritime Central Airways, supported in the more major airline operations; CPA proceeded to divest itself of its smaller operations to local air transport operators.

Canadian Pacific Airlines persisted in its efforts to achieve east-west linkage of major cities when, in 1953, it submitted an application to the Air Transport Board for authority to operate an all-cargo service between Vancouver and Montreal via Edmonton, The Pas and Toronto.[16] Despite claims that the project was viable and non-competitive with TCA's mainline traffic both in its routing and in its specialized character, the Board rejected CPA's application. Subsequently TCA was spurred to introduce three Bristol Freighters to the mainline route; the operation was a failure.

TCA's mainline monopoly was subject to continuing public criticism and this was crystallized in the Air Transport Board's hearings on the "Trans-Continental Case"[17] arising from applications for mainline privileges from CPA and Pacific Western. The advent of a Conservative Government brought a shift in policy. In a letter to Stephen Wheatcroft, Mr. Hees, the Minister of Transport declared:

> I am of the view that the time has come for the introduction of some measure of competition on our trans-continental routes. . . . I would be pleased if you would undertake a study . . . which will deal with the subject in general terms. . . . Specifically I would request that you inquire into, and report upon, the desirability and economic consequences of competitive services on the trans-continental air routes.[18]

In his report Wheatcroft warned that airline competition was not the laissez-faire view of perfect competition "generally recognized as being almost totally irrelevant to a scheduled transport industry." In the context of a government regulated air transport system he defined airline competition to mean that there shall be:

1. a genuine choice of service open to the public.
2. no restrictive pooling agreements between air carriers on the amount of capacity offered by each.
3. possibilities for the prices offered and the quality of service provided to influence the traffic volume.

Wheatcroft analyzed the advantages claimed for competition in general and in the actual Canadian context and concluded that "The advantages of competition . . . do not appear so great that they would be worthwhile irrespective of the risk of higher costs."[19] His further analysis of economics and costs showed:[20]

(a) that there are very few routes on which competition appears fully justified at the present time.

(b) that this position is unlikely to change in the next three or four years.

(c) that the prospects for competition without the danger of cost increases appear to improve considerably in the years between 1961 and 1966.

He judged that competition, if introduced, would have to be on the basis of rationing frequencies to the new service if major detrimental effects to TCA were to be avoided. Also, he suggested that direct subsidization rather than internal cross-subsidization by TCA (and others) be considered for social routes—possibly to minimize the detrimental aspects of any introduction of competition. Wheatcroft referred, too, to "incidental" competition arising, for example, from linking two separate system components for a carrier. Also, it is interesting to note that he suggested consideration of the limited licensing of competing carriers to add capacity at peak periods and the opening up of non-scheduled operations over scheduled routes to allow non-scheduled operators more scope for traffic development.

Although Wheatcroft's evaluation of TCA's efficiency[21] was generally favourable, the government, acting in response to his recommendations and the finding of the Air Transport Board that additional service was a public convenience and necessity, established limited competition in the form of one CPA flight per day on a Vancouver-Winnipeg-Toronto-Montreal route. Recognition was given to CPA's need to have a domestic system linkage for its international traffic. In 1967 Canadian Pacific was granted an additional daily flight, after further study by Wheatcroft, on the grounds of public satisfaction rather than on any argument of increased transport efficiency. The airline was allowed in 1970 to expand its traffic share to 25 per cent but with the requirement that the route be operated from terminus to terminus. The restriction was relaxed in 1974 with respect to flights originating in Vancouver having to terminate in Montreal. In 1977 CP Air's permitted market share was raised to 35 per cent by 1978 and 45 per cent by 1979. Provision was made for further review. Also, still more flexibility of operation was permitted in operation of the route.

Additional, but less powerful, rivalry for Air Canada was introduced when regional carriers were allowed some entry to segments of the transcontinental route. In 1968 Eastern Provincial Airways was granted a Charlottetown-Montreal route followed by Halifax-St. John's in 1970. Transair was allowed, in 1970, to fly from Winnipeg to Toronto but not non-stop.

What about air transport efficiency? There is little doubt that the Canadian Government, primarily through Air Canada (TCA), was successful in building a transcontinental system. Measurement of the external benefits of this system is impractical but the benefits are obviously very large. Availability and continuity of scheduled air transport service has been ensured. For the airlines, Air Canada was enabled to establish its fundamental system base. CP Air was supported in its efforts to become a viable major airline with a coherent system of domestic and international routes to the advantage of itself and its users. With the introduction of limited competition, airline users were granted alternatives in service characteristics. The diffusion of aircraft innovations into the Canadian mainline system was impressive. Air Canada led the world's commercial airlines in establishing an all turbine-powered fleet of aircraft by 1963. CP Air placed more relative emphasis on jet aircraft beginning in 1961 and had achieved an entirely jet aircraft fleet by 1970. These fleet developments were supportive of important productivity gains by both carriers.

Introduction of modern aircraft gave Canada an enviably low fare structure by 1961. Fleet modernization helped the economics of fares for many years subsequent to this. A fare differential with lower CP Air fares on the mainline route began in 1962 and continued for three years. However, in general, price competition between the two airlines does not appear to have been strong. More specifically, careful analysis of fares by Professor Baldwin[22] reveals that the introduction of limited competition did have an adverse effect on Air Canada's fare levels on the mainline route. At first this was cloaked by the cost-reducing technological change through the fleet modernization already mentioned. Subsequent increases in competition were associated with fare increases on the mainline and by marked increases in loss sectors of the system. In terms of the airline's system the Prairie "social" routes were discontinued by Air Canada early in the 1960s, probably as an economy measure conditioned by mainline competition but, also, as a necessary move in a fleet rationalization policy designed to improve airline operating efficiency.

REGIONAL AVIATION

In Canadian commercial regional aviation five airlines emerged as the leading regional carriers subsequent to the rationalization moves of CPA mentioned previously. These carriers were Pacific Western Airlines, Transair, Nordair, Quebecair, and Eastern Provincial Airways. Their importance was disproportionate to their size because of their role in economic development and their contribution to south-north traffic movement. The carriers provided regions with local air services, charter services, feeder services, developmental route services, and supplemental international and domestic charter operations. They could legitimately claim that they were successful competitors in complex and demanding areas of airline operation. Unfortunately, these airlines encountered serious economic problems in the late 1950s and early 1960s.

A comprehensive review of their operations by Studnicki-Gizbert[23] identified a number of weaknesses in their economics, specifically:

1. Instability in both the seasonal and the cyclical nature of their operations.
2. Rising costs due to increased labour costs, increasing operating costs of piston-engined equipment, and the high capital costs of modern turbine aircraft.
3. Diseconomies of short haul and low traffic density in local service operations.
4. Financial instability.

The feast then famine of DEW-line contracts distorted regional carrier development in the second half of the 1950s while heavy dependence on the cyclical resource industries destabilized their operations. Obsolescence and excessive diversity in regional-carrier aircraft fleets produced poor operating economics and limited the quality of service offered. The environments within which these carriers operated were not lacking in competitive stimulus but efficient transport solutions did not seem to be emerging. The government decided to structure this component of Canada's airline industry in a definitive manner.

In 1966 Mr. Pickersgill, the Minister of Transport, presented a statement of principles for regional air carriers.[24] The five carriers were selected for the application of regional carrier policy which defined the main area of operation of each carrier as regional but enlarged the scope of their operation by providing for:

1. Limited competition on mainline route segments of Air Canada and CP Air if consistent with local route development.
2. In a few cases, possible transfer of secondary routes of Air Canada and CP Air to regional carriers.
3. A larger role for regional carriers in the development of domestic and international charters, inclusive tours, and new types of services.

Mr. Pickersgill stated that the regional carriers ". . . will not become directly competitive on any substantial scale with the two mainline carriers." Furthermore, he declared that:

> Economic and efficient operation of a regional route pattern may in some cases involve competition with Air Canada or CPA on a mainline route segment. In such cases the regional carriers can be authorized to operate in competition with Air Canada or CPA. Because of the difference in size and strength between the mainline and regional operators, the competitive basis in such cases would be uneven and, indeed impractical unless the mainline carrier recognizes the supporting role of the regional carrier and makes appropriate provision on the competitive segment accordingly. If this does not happen, the Air Transport Board will, if necessary, exercise appropriate control to provide a change for a fair competitive relationship.

Increased cooperation between the regional carriers and Air Canada and CPA was advocated in areas such as joint fare arrangements, technical and servicing arrangements, inter-connections, joint use of reservations, advertising, and sales activities. Institutional arrangements to ensure the development of cooperation were specified.

In 1969 Mr. Jamieson reiterated the government's position on the limitation of direct competition between the Air Canada and CPA and the regional carriers. He also gave more specific definition to the domestic areas of operation of the regional carriers.

Examples of indirect competition which developed between the regional carriers and the two major carriers are the intermediate stop services provided by Eastern Provincial between Halifax and St. John's, Quebecair's route from Montreal to Sept-Iles, Nordair's route from Montreal to Windsor, Transair's route from Winnipeg to Toronto and Pacific Western's route between Calgary and Vancouver. One the other hand the transfer of routes from Air Canada and/or CP Air has strengthened the systems of Eastern Provincial Airways, Quebecair, and Pacific Western Airlines. The regional carriers, in turn, have withdrawn from a number of local routes, often to be replaced by smaller air carriers. International charter operations by the regional carriers grew on the basis of the new policy and has placed these carriers in competition with Air Canada and CP Air in both their international charter and scheduled services and also with Wardair, a Canadian airline specializing in charter work. Domestic charter activity by the regional carriers has been relatively slight as it has been limited by the scheduled route protection policies enforced domestically. This area of public policy is a contentious one in terms of competition and the public interest.

On balance the regional carrier policy has been successful. Airline fleet rationalization has been achieved by the carriers with the benefits of improved speed, comfort and safety for users. For the airlines the fleet improvement has brought important productivity gains. Growth of the regional carriers has been relatively rapid.

A Canadian Transport Commission study[25] of the first decade of regional carrier operation subsequent to the public policy established in 1966 provides a number of findings. Among these is evidence of a substantial expansion in the revenue base of the regional carriers and a moderation of revenue fluctuations. The Regional Air Carrier Policy appears to have contributed to a strengthening and stabilization of regional air carrier operations through the provision of access to stronger routes and the permission to offer a wide range of services in various geographic areas. The system and service effect has directly benefitted users. However, this study also documents the vulnerabilities of the regional carriers to economic conditions arising from their more substantial scale and sophisticated style of operation. These carriers are sensitive to financial reverse-leverage effects. Recent conditions of increased prices for important cost components and lethargic demand conditions have posed problems for them as they have for all airlines. Unfortunately, productivity increases are difficult to achieve at this stage of airline development.

From the point of view of public policy the recent move of Pacific Western Airlines to acquire Transair and the proposal that Nordair be sold to Air Canada raise large and difficult questions about the structure of the Canadian airline industry.

THE INTERNATIONAL SYSTEM

Canada's international airline system began on the basis of monopoly; TCA was the chosen instrument. In his April 2, 1943, statement cited earlier Mr. Mackenzie King unequivocally confirmed this policy. It is interesting to note that TCA began scheduled service on an international route, Vancouver to Seattle. An agreement between the United States and Canada extended transborder linkages to a number of points in 1942. In 1943 TCA began trans-Atlantic service with a Lancastrian, a converted bomber and, on the basis of war service, developed its system for international operation. However, the policy was soon compromised. Scheduled international air service had become subject to prior bilateral agreement between nations. In 1946 Canada concluded an air transport agreement with Australia and offered the Canadian part of the international service to TCA. TCA, conditioned by the financial break-even policy under which it was operating on government instruction, declined to begin trans-Pacific operations because of forecasted losses. CPA, anxious to restore and expand its passenger service in the Pacific Ocean region, previously based on its surface fleet, and to break the TCA monopoly, obtained the route to Sydney and Auckland. CPA established a route from Vancouver to Mexico and Lima, Peru, in 1954 and a route to Amsterdam in 1955. CPA exchanged some domestic services with TCA for TCA's route from Toronto to Mexico in 1955 and in the next two years added Buenos Aires and Lisbon and Madrid to its system. CPA used losses on its international routes to support its contention that it needed access to TCA's transcontinental traffic to improve its viability. Also, the evolution of the system was such that it needed linkage of its components; the transcontinental route could provide this.

TCA had not been idle. In addition to its trans-Atlantic system it had introduced a Caribbean network. In 1949 another agreement was concluded between Canada and the United States which substantially extended the linkages between the two countries. The agreement was to last for seventeen years; TCA was selected to operate all of Canada's routes. In 1951 TCA extended its London service to Paris and, in 1952, to Dusseldorf.

In 1964 Mr. Pickersgill included comment on international operations in a statement on aviation policy.[26] He said, "Air services provided by Canadian airlines should serve the Canadian interest as a whole; these services should not be competitive or conflicting, but should represent a single integrated plan, which could be achieved by amalgamation, by partnership, or by a clear division of fields of operations."

The following year the airlines requested solution by assignment of fields of operation. TCA was assigned the United Kingdom, Western, Northern, and Eastern Europe, and the Caribbean. An exception was made for CPA's Amsterdam service. CPA was to serve the whole Pacific area, the continent of Asia, Australia and New Zealand, Southern and Southeastern Europe, and Latin America. No decision was made about Africa. Policy with respect to the United States was to await the next Canada-United States bilateral agreement.

In a 1973 statement on air policy[27] Mr. Jean Marchand, Minister of Transport, declared that the government would, in the international field, ". . . encourage more cooperation between CP Air and Air Canada in the context of benefits to Canada and . . . require the Canadian Transport Commission to report to him on the degree of cooperation which is being achieved. The degree of cooperation which is achieved will be a factor in determining future route awards within the flexibility afforded by the division of the world outlined in this statement and would influence any timing of any review of this division."

In announcing a revision of the global division Mr. Marchand acted somewhat to restore Air Canada's dominant position. The division was to be subject to review after seven years. Air Canada was given Northern Europe except the Netherlands, Central Europe, and Eastern Europe (Warsaw Pact countries); CP Air was granted Southern and Southeastern Europe plus the Netherlands. Air Canada was given the Caribbean countries and the bordering South American countries of Colombia, Venezuela, and the three former Guianas. CP Air was assigned the balance of Central and South America except that either airline might be chosen to serve Brazil. CP Air kept Australia, New Zealand, and the Pacific Island countries. Air Canada was granted all of Africa except for CP Air's right to Morocco, Algeria, and Tunisia, and either Egypt or Sudan if selected as a route in a Canada-Italy agreement. In Asia Air Canada was chosen for Lebanon, India, and Pakistan while CP Air was assigned most of the balance of Asia, including Israel, Iran, China, and Japan. However, Air Canada could include China if Canada obtained the right to designate two carriers. Southeast Asia was left for future consideration. Finally, CP Air was to serve Milan, and Air Canada Yugoslavia. In general, CP Air felt that it had been unfairly treated.

In North America Canada and the United States concluded a bilateral agreement in 1966 which substantially liberalized and enlarged traffic possibilities.[28] While the agreement was beneficial it was soon clear that the balance of benefits was not developing in a manner satisfactory to Canada. The market share of the Canadian carriers was falling seriously; this deterioration appeared to be based on gateways. Canada required more deep-penetration routes to balance heavy competitive pressure from United States short-haul traffic collection.

After long negotiation a major

amended agreement was concluded in 1974. Complementary agreements were also signed on preclearance and on non-scheduled air service. Provision was made for the expansion of the system to seventy-three routes including the duplication involved in a large amount of double-tracking. Of considerable importance is the provision of phasing in the implementation of the agreement, which does not become fully effective until 1981. Benefits from the amended agreement were expected to develop more rapidly for the United States in the early phases while Canada is in a position to improve its relative position and achieve balance in the later phases of implementation.

The route awards to Canadian carriers were contentious. Mr. Marchand granted all but three to Air Canada. The exceptions were Vancouver-San Francisco/Los Angeles to CP Air and shorter routes granted to regional carriers—Toronto/Hamilton-Pittsburgh to Nordair and Vancouver/Victoria-Seattle (Vancouver-Seattle non-stop is the new route) to Pacific Western Airlines. CP Air and some of the regional carriers were bitterly disappointed.

The advent of jet aircraft and the development of a mass market for air service based on rising income levels and tourism led to a boom in international charter business after 1960.[29] A staff study published by the Canadian Transport Commission[30] reveals the rapid acceleration of Canadian participation in this field and the importance of the trans-Atlantic component. In 1966 Wardair began business and soon became important as a Canadian specialist in charter work.

The rivalry between charter offerings and scheduled service has been vigorous and has evolved through a complex series of air transport marketing developments. Competitive pressures on airlines have been severe[31] and in recent years complaints have been heard in Canada about discrimination against the domestic market.

The rigidities of participation in scheduled international traffic coupled with the wide range of variation in traffic volume and in competitive conditions on international routes have put additional pressure on carriers. Canadian airlines have felt the impact of this pressure severely. The difficult economic phase in which commercial aviation finds itself exacerbates these problems.

CONCLUDING COMMENTS

In this review of Canadian airline experience[32] it appears that transportation efficiency implies performance in the light of complex public interest considerations within which commercial market efficiency is important but not sufficient. In the pursuit of transportation efficiency the government has intervened boldly in air transport development and has established monopoly or quasi-monopoly positions for carriers. Competition, despite its claims to virtue, has on occasion been forced upon the industry by carrier enterprise and changing circumstances. Small-number carrier rivalry has become established over time and appears clearly to be a normative feature of the airline industry and international traffic.

Both the transcontinental monopoly given Air Canada and the structuring established in 1966 for the regional carrier segment of the industry have been shaken or altered by changes in airline economics or other conditions. These features of Canadian policy achieved impressive results, but the evidence suggests that structural intervention of a particular sort has finite limits in time and that new solutions are required as circumstances change. To say this confirms rather than denies reasonable continuity and vitality in Canadian air transport development.

Competitive realities are demanding in the international field and, with the range and scope of modern airline systems, Canada's needs would seem to require increasing emphasis on the integration of the international and domestic aspects of her air transport industry. Such integration requires regulatory adaptation and attention to fare structures and levels and system characteristics. The problem here is not one of neglect but is, rather, one of changing conceptualization and emphasis. In the process, reconsideration can properly be given to the regional carrier component of the air transport industry.

Regulation of the airline industry will almost certainly continue to be pragmatic in the light of the complexity of Canadian public interest demands and the dynamic elements of the industry. Important for improvement in the regulatory process will be increased effectiveness in intervention in the oligopolistic behaviour of the industry.[33] Such intervention can admit of no simplistic formula for solution. For the regulators the voyage appears destined to continue between the Scylla of competition and the Charybdis of monopoly, while buffeted by winds of change of economic and political forces.

In conclusion one might ask, "What is the answer to the choice between competition and monopoly on the basis of Canadian experience?" Yet this very experience suggests that transportation efficiency would be better sought by shifting our perspective to place transportation efficiency, in its public interest form, in the foreground and to accept the alternatives of competition and monopoly as well-established institutional influences whose balance of effects requires more understanding.

FOOTNOTES

1 See K. G. Dennis, **"Competition" in The History of Economic Thought,** New York, 1977.

2 J. S. Mill, **Principles of Economics,** 1848.

3 See E. J. Mishan, "The Folklore of the Market: An Inquiry into the Economic Doctrines of the Chicago School," **Journal of Economic Issues,** December, 1975, pp. 681-752 and H. M. Trebing, "The Chicago School versus Public Utility Regulation," in **The Chicago School of Political Economy,** ed. W. J. Samuels, East Lansing, Michigan, 1976, Ch. 14.

4 For a useful synopsis of conflicting analyses of progressiveness in industry, see J. M. Vernon, **Market Structure and Industrial Performance: A Review of Statistical Findings,** Boston, 1972, Ch. 5.

5 **British Air Transport in the Seventies** (Report of the Committee of Inquiry into Civil Air Transport), London, 1969, p. 79.

6 J. Schumpeter, **Capitalism, Socialism, and Democracy,** 3rd edition, New York, 1950, Chs. VII, VIII and J. K. Galbraith, **American Capitalism,** Boston, 1952.

7 P. Sraffa, "The Laws of Returns under Competitive Conditions," **Economic Journal,** December, 1926, pp. 535-550.

8 O. J. Lissitzyn, **International Air Transport and National Policy,** New York, 1942, Part 1.

9 K. W. Studnicki-Gizbert, "Regulatory Policy Options in Transport," **Transportation Research Forum Proceedings,** Volume XII, No. 1, 1971, pp. 2-4.

10 For a review of this analysis see F. M. Scherer, **Industrial Market Structure and Market Performance,** Chicago, 1970. Chs. 5-8.

11 J. R. K. Main, **Voyaguers of the Air,** Ottawa, 1967, p. 146.

12 For the early history of TCA see C. A. Ashley, **The First Twenty-five Years,** Toronto, 1963.

13 **Contract between His Majesty the King and Trans-Canada Airlines, 4 May, 1946.**

14 **Hansard. March 17, 1944.**

15 Air Transport Board, **Report on Review of Licences Respecting Commercial Air Services Pursuant to Section 13 of the Aeronautics Act,** April, 1947, pp. 11-12 (Main Report).

16 J. R. K. Main, **op. cit.,** pp. 219-220.

17 Air Transport Board, **Report to the Minister of Transport: Trans-Continental Air Services, Appendix A: Summary of Evidence, Ottawa, December 31, 1958.**

18 S. F. Wheatcroft, **Airline Competition in Canada,** Ottawa, 1953, Foreword.

19 **Ibid.,** p. 44.

20 **Ibid.,** p. 46.

21 **Ibid.,** pp. 12-23.

22 J. R. Baldwin, **The Regulatory Agency and the Public Corporation,** Cambridge, **Mass.,** 1975, Chs. 9, 11.

23 K. W. Studnicki-Gizbert, **The Regional Air Carriers' Problem,** Ottawa, 1966.

24 Department of Transport **Press Release,** October 20, 1966.

25 J. A. Greig, **Regional Air Carrier Study,** Ottawa, 1977.

26 Department of **Transport Press Release,** April 24, 1964.

27 Transport Canada Press Release, March 23, 1973.

28 For a more complete presentation of Canada-United States international air transport relationships, see R. F. Harris, "The United States-Canada Air Transport Agreement and the Public Interest," **Proceedings of the Seminar Series on Transportation,** 1974-1975, University of Manitoba, pp. 23-61.

29 For a discussion based on the North Atlantic see R. M. Smithies, "The Changing Demand for Air Transport," **Journal of Transport Economics and Policy,** September, 1973, pp. 231-249.

30 D. Saarty, **The International Charter Market: Review and Outlook,** Ottawa, 1968.

31 For comment on the current situation see B. Aubreton, "Air Transport Organization and Policy," **Bulletin 7/8-E, Institut du Transport Aerien,** 1978, pp. 149-167.

32 Unavoidably incomplete on practical grounds. For example, the experience of Canada's "third level" air carriers is neglected but is interesting in the context of the topic of this paper.

33 For a sample of analytical problems see M. Nicholson, **Oligopoly and Conflict, Toronto, 1972.**