A-XVIII-520 (B)

COMPETITION TRIBUNAL/TRIBUNAL DE LA CONCURRENCE

Court File No.: CT-88/1

IN THE MATTER OF an application by the Director of Investigation and Research under subsection 64(1) of the Competition Act, R.S.C. 1970, c. C-23, as amended;

AND IN THE MATTER OF a Limited Partnership formed to combine the operations of the Reservec and Pegasus computer reservation systems;

AND IN THE MATTER OF The Gemini Group Automated Distribution Systems Inc.;

AND IN THE MATTER OF an application by the Director of Investigation and Research under section 106 of the Competition Act, R.S. 1985, c. C-34 to vary the Consent Order of the Tribunal dated July 7, 1989.

BETWEEN:

The Director of Investigation and Research

	Applicant			
- and -	COMPETITION TRIBUNAL TRIBUNAL DE LA CONCURRENCE			
Air Canada	D)E			
PWA Corporation Canadian Airlines International L				
The Gemini Group Limited Partner The Gemini Group Automated Distribution	Systems TRETRAR - RECIGTRAIRE			
Covia Canada Corp. Covia Canada Partnership Corp	OTTAWA, ONT. #830(b)			

- and -

Consumers' Association of Canada
American Airlines, Inc.
Attorney General of Manitoba
Alliance of Canadian Travel Associations
IBM Canada Ltd.
Via Rail Canada Inc.
Unisys Canada Inc.
Council of Canadian Airlines Employees

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Affidavit of Gloria I. Hurdle

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- I, GLORIA J. HURDLE, of the County of Arlington in the Commonwealth of Virginia in the United States of America, MAKE OATH AND SAY AS FOLLOWS:
- 1. I am a Senior Economist at Economists Incorporated and have been retained by the Director of Investigation and Research, Competition Act, to provide my opinion on the competitive effects in CRS markets and in airline markets if, as a result of an Order of Dissolution, the CRS Rules and Consent Order are no longer in force. Now shown to me and attached as Exhibit "A" to this my affidavit is a copy of my Report.
- 3. My qualifications to give expert evidence on these issues are set out in my Resume, which is attached as Exhibit "B" to this my affidavit.
- 4. The contents of this Report attached as "Exhibit A" to this my affidavit and the opinions expressed therein are true to the best of my knowledge, information, and belief.
- 5. I make this affidavit pursuant to Rule 42(2) of the Competition Tribunal Rules and for no improper purpose.

SWORN BEFORE me,

a Notary Public for the District of

Columbia, in the United States

of America, on the std day of

November, 1993 at the District

of Columbia

in the United States of America

)

Gloria J. Hurdle

A Notery Public of Discript of Columbia
My Commission Expires June 14, 1966

REPORT OF GLORIA J. HURDLE

Gemini 106 Application

Exhibit A
November 5, 1993

L Introduction and Purpose

In a Rebuttal Report filed January 29, 1993, I concluded that competition in Canadian Computer Reservation System (CRS) markets is not likely to be lessened substantially as a result of Canadian Airlines' (CDN) termination of its hosting contract with Gemini in order to host on Sabre or as a result of the failure or dissolution of Gemini. I concluded that Air Canada (AC) had numerous alternatives to Sabre for hosting services, and that AC and Covia have incentives to continue to market Apollo by Gemini to travel agents in Canada. In the alternative, AC could align itself with another CRS.

At the time of the formation of Gemini, AC and CDN entered into a Consent Order with associated CRS rules. This report considers whether my conclusion concerning the competitive effects of the dissolution of Gemini would be altered in the event that the CRS rules and other provisions contained in that Consent Order are no longer in effect.

My economic evaluation of these issues is based on my review of the terms of the Consent Order and the Rules; the economic analysis in my Rebuttal Report; my expertise as explained in that report and in oral testimony before the Competition Tribunal on February 24, 1993; and a review of information in the Gemini proceedings. Based on my Rebuttal Report and my further review, I conclude that elimination of the CRS rules will not alter my conclusion that dissolution of Gemini would not result in a substantial lessening of competition in the short run. Any longer run effects could be alleviated by further regulatory approaches.

If the CRS rules that were part of the Consent Order are no longer applicable, I conclude as follows:

• The changed structure of the CRS industry in Canada and reciprocal rules in other countries make the rules less necessary than they were at the time of the Consent Order.

- While CRS rules have been shown to constrain undesirable behavior in Canada (as well as in the rest of the world), elimination of the rules would have a more or less neutral effect on the two CRSs operating in Canada and would not give Sabre such a competitive advantage over its rival that it could monopolize the CRS industry.
- With respect to airline markets, AC and CDN are similarly situated with comparable airline shares, and each could be associated with CRSs of substantial size in Canada, thus insuring that neither airline is at a competitive disadvantage.
- Thus, the possible elimination of the Consent Order and the CRS rules does not alter my earlier conclusion that dissolution of Gemini will not result in a significant lessening of competition in the short run.
- If there are long-term effects from elimination of the CRS rules associated with the Consent Order, then replacement rules could be implemented through future regulation.

II. Effect of Dissolution of Gemini If CRS Rules Are Not In Force

It has been suggested that if Gemini is dissolved, then the Consent Order and CRS Rules might cease to be in force. In this section I show that my prior conclusion that dissolution of Gemini will not likely result in a substantial lessening of competition is not dependent on continuation of the Consent Order or the CRS rules. Changes in the structure of the industry since the time of the Consent Order make it less likely that the carriers and CRSs themselves will gain a competitive advantage from the types of practices prohibited by the Consent Order. As a consequence, the importance of the CRS rules for maintaining competition has declined. Nevertheless, there are economic benefits to CRS rules, and in the long run rules should be implemented by regulation.

Structural Changes that Reduce the Need for CRS Rules

The structure of the CRS industry has changed from one with Gemini having 90.3 percent of travel agents in June 1987,¹ to one where the largest CRS has less than 60 percent of travel agents.² Changes in structure generally are more effective in eliminating anticompetitive effects than are regulations. In her testimony, Margaret Guerin-Calvert recommended dissolution of Gemini as the simplest and most effective solution to the substantial lessening of competition from the Gemini merger.

This [dissolution] is likely to result in competition among U.S. and European CRS vendors to establish joint ventures with each of Reservec and Pegasus, whose owners each control about half of the Canadian airline market. Dissolution is thus likely to result in two major Canadian CRS players as well SABRE. The opportunity for this market structure is what is lost by the Gemini merger.

Dissolution is also simple to implement and requires no addition [sic] regulation.³

Dissolution of Gemini today would result in an industry structure that is not substantially different from the structure Ms. Guerin-Calvert envisioned had the dissolution taken place at that time. Instead of both AC and CDN seeking to find "joint venture partners" with other CRSs, CDN has already found its partner, Sabre. AC could remain with Covia, align itself in some other way with Galileo, or turn to System One or Worldspan.

Tab 10; Agreed Statement of Facts, Table 3A, Exhibit A XVII.

Gemini's share of agency locations was percent in November, 1992. Exhibit R III, Tab 92.

Margaret E. Guerin-Calvert, Competitive Analysis of the Reservec-Pegasus Merger, March 2, 1989, p. 47, Exhibit A XVII, Tab 13.

Incentives of the Carriers and CRSs in the Absence of the Consent Order and CRS Rules

An examination of the Consent Order and each of the categories of the CRS rules suggests that elimination of the rules would not substantially disadvantage Gemini's successor or Sabre vis-à-vis the other. Furthermore, the incentives of the carriers and the CRSs to engage in anticompetitive behavior is less likely today than it was at the time of the original implementation of the rules.

The Consent Order and CRS Rules included requirements on participation, regulations to reduce bias, restrictions against discrimination by vendors against participating carriers, travel agent contract terms, prohibitions on tying of airline service or commissions to use of a particular CRS, and requirements on access to airline information. As shown below, dissolution of Gemini, even without these rules, will not substantially reduce competition between Sabre and the successor of Gemini in the short run.

Participation Requirements

A primary concern in establishing the CRS rules and the Consent Order was that as a consequence of Gemini's large market share and its association with the two largest Canadian airlines, it would be difficult for another CRS to establish itself in Canada. To encourage future entry and competition from other CRS vendors, the Consent Order required that AC and CDN participate fully in all Canadian CRSs and that operational direct access links be provided on specified, certain dates to all CRSs requesting such links. The rules also included requirements that AC and CDN pay fees for bookings made on other CRSs. The participation requirements and other rules were intended to open up Canadian CRS markets to other CRS vendors.

Many of the purposes of the Consent Order have already been accomplished. These rules were established when Gemini had nearly 80

percent of travel agent locations⁴ and was owned by two carriers that represented over 90 percent of the Canadian airline market.⁵ Following implementation of the Consent Order and CRS Rules, Sabre has been able to increase its share from less than 20 percent of agency locations in 1989 to over 40 percent by October, 1992.⁶ The shares of ApG and Sabre are sufficiently large that neither AC nor CDN could profitably refuse to participate in either of these CRSs. Furthermore, the future market share of ApG was estimated to be at least 30 percent by both Dr. Duffy and Dr. Hausman. Thus rules requiring participation are less necessary than at a time when Sabre had a less significant penetration.

Display of Information

Algorithmic Bias

It is unlikely that elimination of the CRS rules will result in a substantial lessening of competition in airline markets through biases in the display of information in the near term. In order to introduce bias in Canadian CRSs, the vendors would have to reprogram their algorithms. The benefits from instituting biased display algorithms would be short-lived if new CRS rules prohibiting display bias were implemented. Furthermore, any reprogramming to introduce bias would have to be limited to domestic markets since there are anti-bias rules outside of Canada that prohibit CRSs from display bias for flights to or from that country. Given that any bias is

⁴ Hurdle Rebuttal Report, Table 4. Exhibit A XVIII, Tab 519.

⁵ Tretheway Statement, Gemini CRS Merger, March 1, 1989, p. 4, Exhibit A XVII, Tab 13.

⁶ Hurdle Rebuttal Report, Table 4. Exhibit A XVIII, Tab 519.

⁷ For example, according to a 1990 U.S. Department of Transportation study, "Most parties believe that the government's CRS rules have eliminated carrier-specific display bias." Secretary's Task Force on Competition in the U.S. Domestic Airline Industry, Airline Marketing

likely to apply only to domestic travel-and given that new CRS rules could be implemented at any time, the cost of introducing bias into the system may outweigh the benefits, particularly if new anti-bias rules are expected imminently.

Architectural Bias

14

Technological changes have affected the competitive effects of rules concerning architectural bias. Direct access is no longer an issue since both AC and CDN have direct links with both Sabre and ApG.⁸ AC also has "look and book" links with Worldspan, System One, Apollo, and Galileo.⁹ To remove those links would require additional expenditures, and it is unlikely that either AC or CDN would choose to do that, both because of the expense and because of the benefits each obtains from having direct links to CRSs that are used by a large number of travel agents.

In the absence of rules on equal functionality, market forces may encourage airlines and CRSs to implement seamless links to their internal reservation systems. In the U.S., DOT has decided not to require equal functionality, because ". . . the vendors have been moving toward providing more equal functionality without being required to do so. That movement toward equal functionality eliminates much of the need for a rule mandating

Practices: Travel Agencies, Frequent Flyer Programs, and Computer Reservation Systems, February, 1990 at 46. If a Canadian CRS chooses to bias the display of international carriers, then the U.S. CRS rules concerning bias do not apply to carrier owners of that CRS, subject to certain notice requirements. Federal Register, Vol. 57, no. 184, p. 43837.

Rules requiring direct links were intended to reduce architectural bias favoring carriers that were owners of CRSs. Today there are new links, called seamless connectivity, that reduce architectural bias even further. The Consent Order also required participation in those new links, called "look and book" links, subject to various restrictions.

Discovery of Mr. Burden, October 28, 1993, p. 38.

radical changes in CRS operations in order to reduce architectural bias." ¹⁰ Worldspan has implemented a seamless link with Delta for PARS subscribers, and Delta implemented a similar link with Apollo last April and is phasing in a seamless link on Sabre. ¹¹ Furthermore, not all airlines require the same amount of functionality. Southwest Airlines in the U.S., for example, does not require sophisticated CRS services.

Finally, to the extent that a CRS did decide to bias its system, the effect would be primarily on consumer welfare in the form of wasted resources due to misleading information. The effect on competition in CRS markets would be largely offset by reciprocal bias on the part of competitors. This is particularly true since ApG and Sabre are each of considerable size, as are AC and CDN. Table 1 shows the most recent available data on AC's and CDN's airline operations. Thus, if both Sabre and Gemini's successor decided to increase bias, the effect would be to a large degree offsetting, making it is highly unlikely that a CRS could eliminate its rival by biasing its system.

Contracts with Participating Carriers

The rules concerning contracts among vendors and participating carriers include requirements concerning nondiscrimination among participating carriers, rules on tying, and rules requiring vendors to allow any carrier to participate if it is willing to pay the fees. These rules were designed to ensure that carriers that owned CRSs could not increase CRS fees or deny access to the system in order to raise their competitors' costs.

First of all, AC and CDN are of comparable size, and any attempt to disadvantage one by the other is likely to result in retaliation thus making discrimination and other acts less likely in the first place. With respect to

U.S. Department of Transportation, Computer Reservations System Regulations, Final Rule, Federal Register, September 22, 1992, p. 43810.

¹¹ Travel Weekly, October 18, 1993, p. 9.

participating carriers other than AC or CDN, there are currently no significant independent airlines operating scheduled service in Canada today.

Any effects that the lack of CRS rules might have are relatively small in comparison to other entry barriers. 12 To the extent carriers do overcome these other barriers, entry by charter or niche carriers is possible without a CRS.

Furthermore, if de-hosting is not allowed, and if CDN fails or merges with AC, this elimination of an actual competitor would result in a greater lessening of competition than would any increase in entry barriers caused by removal of CRS rules.

In addition, dissolution of Gemini eliminates one of the concerns at the time of the formation of Gemini—that the merger would enhance the likelihood of collusion between the two airline owners. Ms. Guerin-Calvert stated:

The Gemini merger increases the chances that Air Canada and CAIL could exchange data on market share, prices, and price changes through the CRS.¹³

Separation of CDN's and AC's hosting systems from a single CRS will alleviate these concerns about possible collusion, and could thus enhance competition between the two carriers.¹⁴

See, e.g., Tretheway Statement: Gemini CRS Merger, pp. 30-31, March 1, 1989, Exhibit A XVII. Tab 13, listing entry barriers into scheduled Canadian airline markets other than barriers related to CRSs.

Report of Margaret Guerin-Calvert, March 2, 1989, p. 37, Exhibit A XVII, Tab 13.

Air Canada has, in fact, taken advantage of the data available through Gemini to monitor CDN's pricing strategy. An internal memorandum states:

Finally, unlike bias which is sometimes difficult to detect or prove, any discrimination in booking fees, tying of services, or refusals to allow participation would be evident to the affected airline, so that remedies through existing antitrust laws¹⁵ or through new regulations could be forthcoming if significant abuses in booking fees occurred.

Contracts With Subscribers

The CRS rules also apply to contracts with subscribers. The rules establish maximum contract lengths, multiple use, rollover and liquidated damages provisions that were initially designed to make it easier for CRS entry and expansion. The CRS markets in Canada are no longer dominated by a Gemini joint venture that included both major carriers in Canada. Thus, the need for contract regulations is substantially diminished. Furthermore, in order to be willing to sign onto a longer contract, that contract must be attractive to travel agents. Thus, there will remain competition among CRSs at the time of contract renewal, with or without these rules. Nevertheless, elimination of rules on maximum contract lengths could lead to longer contracts and make switching among CRS vendors somewhat less likely in the long run. Long run effects can be resolved through future regulatory changes.

The CRS rules also contain prohibitions on tying, which were particularly important when both airlines representing the vast majority of Canada's domestic air transportation were owners of Gemini. If travel agents

Although we would not want to admit it publicly, Air Canada obtains some commercial advantage by its Gemini co-ownership with PWA. For example, we are able to determine when PWA is getting ready for a seat sale by monitoring the number of data input transactions on Gemini. One could expect that PWA gains similar advantage. Exhibit XII, Tab 344, p. 3.

The Competition Act prohibits tied selling arrangements and other exclusionary practices when the effect is a significant lessening of competition.

could obtain discount tickets, commission bonuses, or other benefits only by using Gemini, then they would choose Gemini, and other CRSs would be at an almost insurmountable disadvantage. With the dissolution of Gemini today, that would no longer be the case. In the extreme, if AC tied its services to the use of its chosen CRS and CDN did the same for Sabre, then both CRSs would be at a similar competitive advantage since both would be tied to airlines with similar amounts of airline sales to use for any leverage. (See Table 1)

Access to Airline Information, Service Enhancements, and Ticketing

The CRS Rules also require that carrier owners of CRSs not be allowed to withhold information from other CRSs in Canada, withhold service enhancements, or prevent the issuing of tickets. As noted above under the analysis of the Consent Order, the size of the shares of ApG and Sabre make it unlikely that either AC or CDN would restrict its sales through the other system. To the extent the carrier owners are able to prevent entry by a third CRS by restricting airline information or other services in the long run, new CRS regulations may be necessary.

III. Implementation of New CRS Rules

If elimination of the CRS rules due to dissolution of Gemini leads to consumer deception or other practices that reduce social welfare, CRS rules could be implemented in Canada through regulation. CRS Rules are already in place in the U.S., in Europe, and in Australia.

Transport Canada issued a draft policy statement outlining the principles to be applied to CRS rules in April of 1991.¹⁷ Further action was

The Reasons for the 1989 Consent Order, Exhibit A XVII, Tab 12, p. 33, note that Sabre would be at a disadvantage vis-à-vis Gemini, since it could not offer ties of the kind which Air Canada and Canadian, the owning carriers of Gemini, could offer.

¹⁷ Travel Weekly, April 15, 1991, p. 44.

delayed, pending implementation of new rules in the United States. Furthermore, there was no pressing need to implement rules, as long as the Consent Order and rules were in operation. Since issues of rules in the United States have already been resolved, and since Transport Canada has already drafted proposed rules and heard comments from the parties on the rules, it is more likely that new rules can be implemented quickly.

Furthermore, pressures to implement CRS rules could also occur if, in the absence of the rules, consumers have become disadvantaged through biased displays or other deceptive practices. Finally, if dissolution of Gemini is ordered, it would not take place for another year, giving Transport Canada at least a year to implement new regulations.

IV. Conclusion

In my Rebuttal Report, I concluded that competition in Canadian CRS markets is not likely to be lessened substantially as a result of the failure or dissolution of Gemini. The incentives of the relevant parties and the economic forces underlying CRS competition described in my Rebuttal Report point towards an outcome where AC will be linked with a strong U.S. CRS that is not Sabre, providing effective competition with Sabre in CRS markets in Canada.

That conclusion holds in the event the Consent Order and CRS Rules are eliminated. The Consent Order and CRS Rules were designed to promote CRS competition at a time when Gemini had nearly 80 percent of agency locations. That mission has been accomplished and elimination of the rules is unlikely to have a substantial effect on the current structure of the CRS industry in the short run. Furthermore, with respect to airline markets, neither AC nor CDN is likely to be at a competitive disadvantage if the rules are eliminated, since each could be associated with CRSs of substantial size in Canada, and each have comparable airline shares. Finally, the proposed date of the dissolution allows substantial time for new rules to be implemented.

Table 1

Scheduled and Charter Operations of Air Canada and Canadian Airlines International

Revenue Fammyer Englaned	Available Seat Wiles	Revenue Passanger Miles	Berner.	Operating Statistics (Militare) Air Canada	•
11.800 86.9%	BY TEE	14,877	12,768	Alt- C	
***	21,238 BXZ,52	14,877 84.5%			150
8.903	21,384 47.9%	11,261 45.5%	tare seem seem earth	Consolia Airlines	\$
1.963 43.2%	47.9%	18.5%	***		
7.500	19,563 50.2%	19,650		Ale C	
*****	#203	19,650 51.9%	82.5%	Air Casada	1991
2	19,782	12,673	tajas sass sajas	Canadian Airimes	=
\$	49.8%	48.1%	47.5%		
9900	31,628	14,301 51.9%	314,5	Alr Camada	
8678	67.1%	51.9%	31.15		19
8.137	19,916	13,524 44.15	ta,sus salis tajisa 47.9%	Canadias Airlines	
*13	47.9%	4118	47.5%		

Revenue to calculated by multiplying yield per EPM times EPM's.

Note: The operating statistics above one for scheduled and charter flights - not constituted.

Swares: 1991 and 1998 Anseral Reports of PWA Corporation and Air Canada.

Exhibit B Curriculum Vitae

CURRICULUM VITÆ

Gloria Jean Wolvington Hurdle

Economists Incorporated 1233 20th Street, N.W., Suite 600 Washington, D.C. 20036 (202) 223-4700

Summary of Prior Work Experience:

Extensive experience in the analysis of regulated and recently deregulated industries including airlines, motor carriers, railroads, natural gas, electric utilities, ocean shipping, dairies, and banking.

Presented Testimony before U.S. District Court, the Civil Aeronautics Board, the Department of Transportation, the Interstate Commerce Commission, the California Public Utilities Commission, and the Competition Tribunal in Ottawa, Canada.

Served as a semior economist at the U.S. Department of Justice, and as an economist on the U.S. Senate Antitrust Subcommittee.

Prior Education:

B.A. (Mathematics), Oberlin College, 1967

M.A. (Economics), University of Michigan, 1969 Ph.D. (Economics), University of Michigan, 1972

Dissertation:

The Relationships Among Leverage, Risk, Market Structure and Profitability: A Firm and Industry

Study

Fellowship and Scholastic Honors:

Rackham Prize Fellowship, University of

Michigan, 1971-72

NDEA Title IV Fellowship, University of

Michigan, 1968-69, 1969-70

Phi Beta Kappa, Oberlin College, 1966

Previous Experiences

Economist, Economic Regulatory Section, Antitrust Division, U.S. Department of Justice, May, 1977 to July, 1990

Staff Economist, Subcommittee on Antitrust and Monopoly, U.S. Senate, July, 1976 to May, 1977

Assistant Professor, The Colorado College, 1974-75, 1975-76; Principles of Economics, Intermediate Microeconomics, Intermediate Macroeconomics, Statistics. Econometrics

Visiting Assistant Professor, University of Michigan, 1972-73, 1973-74; Principles of Economics, Intermediate Microeconomics, Intermediate Macroeconomics

Lecturer, Eastern Michigan University, 1972-73, 1973-74 Principles of Economics, Intermediate Macroeconomics, Monetary Theory

Teaching Fellow, University of Michigan, 1971-72, Principles of Economics, Statistics and Econometrics

Expert Testimony:

Before the Competition Tribunal, Ottawa, Canada:

In the Matter of an Application by the Director of Investigation and Research to Vary the Consent Order of the Tribunal dated July 7, 1989, between The Director of Investigation and Research and Air Canada, PWA Corporation, Canadian Airlines International Ltd., The Gemini Group Limited Partnership, et al.

Before the United States District Court, District of Colorado:

U.S. vs. Excellair, Inc., et al., Civil Action No. 84-K-1055

Curriculum Vites Cloria Jean Wolvington Hurdle pg. 3

Expert Testimony (continued):

Before the Department of Transportation:

TWA-Ozark Acquisition Case, Docket No. 43837

NWA-Republic Acquisition Case, Docket No. 43754

Pacific Division Transfer Case, Docket No. 43065

Before the Civil Aeronautics Board:

Continental-Western Merger Application Docket 38733

Eastern-National Merger Application
Docket 34226

Before the California Public Utilities Commission:

Case No. 10368, Investigation on the Commission's own motion into the rules, practices procedures and activities of all rate bureaus pursuant to Public Utilities Code Section 496 agreements as they represent Highway Common Carriers, Cement Carriers and affiliated Express Corporations, July 13, 1978

Before the Interstate Commerce Commission:

Initial Statement and Exhibits of the United States Department of Justice, Ex Parte 297 (Sub-No. 2), Petition for Rulemaking—Notification of Rate Proposals Following Prior Independent Action

Answers for the United States Department of Justice, Ex Parte 297 (Sub-No. 4), Reopening of Section 5a Application Proceedings

Petition of the United States of Justice for an Order Directing the Members of the Rocky Mountain Motor Tariff Bureau to Show Cause Why Their Antitrust Immunity to Discuss and Agree on General Rate Increases Should Not Be Withdrawn, (49 U.S.C. § 10706(b) Section 5a App. No. 60)

Expert Testimony (continued):

Before the National Commission for the Review of Antitrust Laws and Procedures:

Motor Carrier Rate Bureaus

Before the Competition Tribunal, Ottawa, Canada

In the matter of an application by the Director of Investigation and Research under section 106 of the Competition Act, R.S.C. 1985, c. C-34, to vary the Consent Order of the Tribunal, dated July 7, 1989 between The Director of Investigation and Research, Applicant, and Air Canada, PWA Corporation, Canadian Airlines International LTD. The Gemini Group Limited Partnership, et al. Respondents, February, 1993.

Before the United States District Court for the District of Columbia

Expert Declaration and Report filed in A&S Council Oil Company, Inc., et al. v. Patricia Saiki, et al. April, 1993.

Papers:

"Price Discrimination and Economies of Scale in Merger Analysis," Antitrust, Vol. 5, Spring 1991. [Shorter version also appears in International Merger Law, June 1991.]

"Concentration, Potential Entry and Performance in the Airline Industry," (with Richard L. Johnson, Andrew S. Joskow, Gregory J. Werden, and Michael A. Williams), Journal of Industrial Economics, V. 38, December, 1989.

"Explaining and Predicting Airline Yields with Nonparametric Regression Trees," (with Michael A. Williams, Andrew S. Joskow, and Richard L. Johnson). *Economics Letters*, V. 24, 1987.

Papers (continued):

"An Economic Analysis of Motor Carrier Rate Regulation," Paper presented to the Western Economic Association, June, 1984.

"Alternative Strategies Used by the Justice Department in Promoting Deregulation: The Case of the Transportation Industry," Paper presented to the Society of Government Economists at the American Economic Association, December, 1979.

"Vertical Control of Raw Materials: Steel and Aluminum," Paper presented to the Southwest Economics Association, April, 1977.

"Leverage, Risk, Market Structure, and Profitability," Review of Economics and Statistics, November, 1974.

Other Experience:

Participation in Comments Filed Before the Department of Transportation:

High Density Traffic Airports Slot Allocation Transfer Methods--Final Rule (Docket No. 24105) and Slot Allocation: Initial Withdrawal and Redistribution of Slots-Notice of Proposed Rulemaking (Docket No. 24105) January 24, 1986.

Application of People Express, Inc. for An Exemption or, in the alternative, approval of acquisition of control (Docket No. 43472) November 7, 1985.

Notice of Proposed Rulemaking: Slot Allocation Alternative Methods (Docket No. 24110) and Slot Transfer Methods (Docket No. 24110) August, 1984.

Southwest Airlines - Muse Air Acquisition Show Cause Proceeding (Docket No. 42987).

Other Experience (continued):

Participation in Comments Filed Before the Federal Energy Regulatory Commission:

Anticompetitive Practices Related to Marketing Affiliates of Interstate Pipelines (Docket No. RM87-5-000) December 29, 1986 and July 24, 1987.

Participated in Report to the Trans-Alaska Pipeline Liability Fund:

Economists, Inc., An Economic Analysis of the Exxon Valdez Oil Spill on Alaskan Seafood Prices, December 1991.