

FLYING THE UNFRIENDLY SKIES: The Legal Fallout Over the Use of Computerized Reservation Systems as a Competitive Weapon in the Airline Industry

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I. Computerized Reservation System Technology as a Competitive Weapon

A. The Advent of Computerized Reservation Systems

Commercial airlines began using computerized reservation system (CRS) technology in the mid-1970's.¹ These systems consist of mainframe computers and assorted peripherals operated by the airlines, telecommunications equipment connecting the airlines'² computers with the travel agents, and a plethora of terminals and printers in the offices of user travel agents.³ CRS technology works as follows: The proprietary airline installs the system for the travel agency and lists its flight schedules on the system so that the travel agents can peruse the listings and select the most appropriate flights for customers. The travel agents can then use the interactive aspects of the system to reserve flights for customers and to print tickets on ticket stock provided by the airline. This is substantially more efficient than the previous method of telephoning various airlines, requesting flight information, relaying that information to the customer, and then requesting tickets.

In order to make their systems more attractive to travel agencies, proprietary airlines began, in the late 1970's, to permit other airlines to list their flight schedules on the same systems, and to process

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1. For a general discussion of these systems and their history *see, e.g.*, United Air Lines, Inc. v. Civil Aeronautics Bd., 766 F.2d 1107, 1109-10 (7th Cir. 1985).

2. Hereinafter, airlines that operate a CRS will be referred to as proprietary airlines unless referenced directly by name.

3. American Airlines' CRS consisted of six mainframe computers and nearly 100,000 peripherals. American's CRS reaches over 11,000 travel agency locations, contains schedules for over 650 airlines, and processes over 10 million reservations per month. *In re Air Passenger Computer Reservation Sys. Antitrust Litigation*, 694 F. Supp. 1443, 1449 (C.D. Cal. 1988).

reservations and ticket sales just as proprietary airlines did.⁴ This enhanced the systems' appeal to travel agents by eliminating the need to consult other information sources. This service originally was provided free to subscriber airlines, while travel agents paid a fee to proprietary airlines for equipment rental and other services provided.⁵

United Air Lines and American Airlines, which led the industry in the development of CRS technology, each spent over \$100 million to develop their respective systems.⁶ This level of investment put American and United at a competitive advantage because smaller airlines lacked the financial resources to enter the CRS business.⁷ In addition to the high cost of implementing a CRS, the Civil Aeronautics Board (CAB) noted that a scarcity of technical expertise in this area created an additional barrier to entry.⁸ These and other barriers to entry gave proprietary airlines opportunities to exploit subscriber airlines and reap significant market advantages by manipulating both the presentation of the data and the data itself.⁹

CRS technology has had a dramatic economic impact on the airline industry. This note discusses legal attempts to control this impact—first with a regulatory scheme, and, more recently, with an industry-wide antitrust suit. The disposition of legal issues raised by CRS technology will have repercussions for a wide array of information technology applications.

B. *The Impact of CRS*

By 1981, CRS technology had become a standard tool of travel agents, with an estimated 68 percent of all travel agencies in the United States automated, that is, using one or more CRS's.¹⁰ Those agencies not automated were typically smaller and less centrally located. In 1983, the

4. Hereinafter, those airlines that list their flights on a proprietary airlines' CRS will be referred to as subscriber airlines.

5. See, e.g., *Air Passenger*, 694 F. Supp. at 1450.

6. American claimed to have spent \$160 million on its CRS, the SABRE system. See *Alleged Competitive Abuses and Consumer Injury*, 48 Fed. Reg. 41,171, at 41,173 (1983) [hereinafter *Competitive Abuses*].

7. *Id.* The Civil Aeronautics Board also noted that even if another operator were able to obtain the funding necessary to establish a competing CRS, it would not be a competitive product without the participation of United and American in the new system.

8. *Id.*

9. *Id.* at 41,173-174. See also *infra* notes 16-34 and accompanying text.

10. *Louis Harris Study*, TRAVEL WEEKLY, May 1982, at 46.

CAB estimated that the level of automation had increased to 80 percent¹¹ and that the systems operated by United Air Lines and American Airlines dominated the industry, jointly accounting for 80 percent of all automated agency locations.¹² The CAB further estimated that these two systems accounted for 40 to 50 percent of all travel agency sales, representing a full 20 percent of total domestic travel.¹³ Regional markets contained even higher concentrations. For example, in the Denver area, 80 percent of bookings were processed through the United CRS.¹⁴ As of 1985, CRS's produced 57 percent of the airline industry's ticket revenues.¹⁵ From its development in the mid-1970's, CRS rapidly grew to become the major conduit for the flow of information and revenues in the domestic travel industry.

CRS technology created more than just enhanced technical efficiency for travel agents and airlines. It also created opportunities for proprietary airlines to exploit the system as a competitive weapon. Because proprietary airlines had control over the format of flight schedules, they could arrange that format so as to bias agents' bookings. Proprietary airlines established criteria for arrangement such that their flights were listed at the top of the first screen of information to appear in response to an agent's query, while the toughest competitors' flights were listed at the bottom of the last screen.¹⁶ This "screen bias," as it came to be known, had a considerable effect on agents' bookings and created a significant advantage for the proprietary airlines.¹⁷

In the late 1970's, proprietary airlines began to permit subscriber airlines to avoid some of the screen bias by paying for "cohost" status on the CRS.¹⁸ A cohost's flights would be displayed in a preferred way in exchange for a fee paid to the proprietary airline for each booking on the cohost made via the CRS. Increasingly secure in their position, proprietary airlines in 1981 began to raise their booking fees to cohosts

11. *Competitive Abuses*, *supra* note 6, at 41.175.

12. *Id.*

13. *Id.*

14. *Id.*

15. *United Air Lines*, 766 F.2d at 1110.

16. Each screen held approximately eight flights. *Id.* at 1110.

17. *Id.* ("Besides the direct charges levied on travel agents and other airlines, airlines that own computerized reservation systems derive substantial revenue from the additional airline business that they get from 'biasing' the system, that is, displaying flight information in a way that favors their own flights.")

18. *E.g., Air Passenger*, 694 F. Supp. at 1450.

from 25 cents per booking to as much as three dollars per booking.¹⁹

Even if a subscriber airline were willing to pay for cohost status, it still might be subjected to anti-competitive tactics. Some subscriber airlines alleged, for example, that proprietary airlines intentionally transmitted false information about their flights over the CRS.²⁰ Examples of misinformation included "erroneous information about seat availability, closing flights which [were] not fully booked and allowing agents to book seats on flights that [were] already filled."²¹ Subscribers also alleged that proprietary airlines occasionally transmitted disparaging messages about subscriber airlines' flights and censored attempts to send counter-messages.²²

Proprietary airlines also used as a competitive tool one of the most valuable products of CRS technology—the timely availability of market-share data for all travel agents and airlines using the system. While proprietary airlines had access to precise information regarding the bookings of all flight segments by each agent on all airlines in the system, the only information provided to each subscriber airline was a monthly report of that airline's own bookings.²³ This unequal access to market-share data and the trends such data revealed gave proprietary airlines a considerable advantage when conducting marketing or product planning.²⁴

Proprietary airlines also found themselves in an excellent position to exploit sensitive competitor information. Because proprietary airlines were responsible for updating subscriber airlines' flight schedules, they had advance notice of how and when their competition would change a product line.²⁵ This allowed proprietary airlines to adjust their own competitive product strategy prior to posting subscribers' adjustments on the system, thus preempting subscriber airlines' marketing initiatives.²⁶ This competitive information was not available to subscriber airlines.

These kinds of biases decreased the value of CRS's to travel agents,

19. *Id.*

20. *Competitive Abuses*, *supra* note 6, at 41,172.

21. *Id.*

22. *Id.*

23. *Id.*

24. *Id.*

25. *Id.*

26. *Id.* ("Continental alleged . . . that American had delayed loading a new low fare until after its marketing department had considered a competitive response. American claimed that the delay was necessary to avoid confusion and that its policies have been revised.").

who were trying to provide objective information to their customers.²⁷ To keep travel agents from switching to other CRS's, proprietary airlines employed various incentives, positive and negative, to attract and retain agent users. One approach was the inclusion of a minimum use covenant by proprietary airlines in their contracts with travel agents.²⁸ United Air Lines' CRS contract included a clause requiring that 95 percent of the tickets booked by the agent that contained at least one segment on United must be booked via United's Apollo system.²⁹ The confessed purpose of this clause was to force travel agents using Apollo to utilize that system exclusively, rather than maintaining multiple systems.³⁰ Proprietary airlines enforced these clauses by retaining the right to examine the agents' books without notice.³¹

Proprietary airlines also employed positive incentives, such as offering substantial cash payments to agents willing to switch to their systems.³² One industry periodical claimed that United Air Lines not only agreed to provide its Apollo system free of charge but also offered some agencies as much as \$500,000 to switch from a competing system.³³ Even the general business press took notice of these princely sums offered for travel agent favor.³⁴

By the early 1980's, both subscriber airlines and travel agents

27. *Bias, Dealerships' Top Concerns*, TRAVEL AGENT, October 11, 1982, at 94.

28. *Competitive Abuses*, *supra* note 6, at 41,173.

29. *Id.*

30. *United Issues Pacts For Apollo Use With 95% Exclusivity Rule*, TRAVEL WEEKLY, Nov. 15, 1982, at 1.

Apparently, the clause is quite effective. American uses a similar clause in the contracts for its system, with the result that 90 percent of the travel agents using American's SABRE system use only that CRS. *Air Passenger*, 694 F. Supp. at 1458.

Another reason for disallowing or discouraging agents from maintaining multiple systems is that doing so better allowed the proprietary airline to keep track of the percentage of total flights that were booked on its airline. Travel agents who did not give the proprietary airline a proportion of the business at least corresponding to their market share in the area were subject to pressure from the airline to change their ways. "Agents are also becoming accustomed to receiving printouts of their reservation histories with little comments, sometimes nasty ones at that, asking why some other carrier was used instead of them." J. B. Seales, *HE'S only a tool—YOU'RE still the salesman*, TRAVEL AGENT, Oct. 11, 1982, at 19.

31. *United Issues Pacts For Apollo Use With 95% Exclusivity Rule*, TRAVEL WEEKLY, Nov. 15, 1982, at 1.

32. *New Reservations About Airline Computers*, THE FREQUENT FLYER, Dec., 1982, at 45-46.

33. *Id.*

34. *How Airlines Deal With Their Computers*, BUSINESS WEEK, Aug. 23, 1982, at 68. ("To compete, United this spring began offering what one agent calls 'convenience money' as well as bonuses on increases in United sales, contract buy-outs, and free installation to tempt agencies. . . .").

realized that CRS technology had changed the nature of competition in the airline business.³⁵ Unable to combat the power of the proprietary airlines in the marketplace, these groups turned to the legal system for relief.

C. Regulatory Responses to CRS

Complaints from disadvantaged groups such as subscriber airlines and travel agents eventually reached Congress, which ordered an investigation into the use of CRS technology as a means of unfair competition.³⁶ As a result, in 1982, both the CAB and the Antitrust Division of the Department of Justice (DOJ) instituted investigations of the technology. The DOJ decided not to file suit despite finding that the airlines use CRS to weaken competition.³⁷ The CAB, however, determined that action was necessary and issued an Advanced Notice of Proposed Rulemaking in September 1983 prohibiting, *inter alia*, the conditioning of access to a CRS on the purchase of other services, the preferential ordering by carrier of flight information, and the use of discriminatory pricing.³⁸

The CAB's proposed rules required that proprietary airlines justify differences in fees charged subscriber airlines by demonstrating corresponding cost variations.³⁹ The DOJ suggested a different approach, urging that CRS services be provided to subscribing airlines free of charge.⁴⁰ This "zero fee" proposal was intended to provide a simpler, less intrusive system that would offset the price insensitivity of subscriber airlines with the price sensitivity of travel agents.⁴¹ Subscriber airlines had shown little sensitivity to increases in coast status price, rationally preferring to remain on the system rather than sever their

35. The Association of Retail Travel Agents and twelve subscriber airlines filed petitions with the CAB seeking rules to prohibit "abuses" by CRS operators. *Competitive Abuses*, *supra* note 6.

36. *United Air Lines*, 766 F.2d at 1110.

37. Carrier-Owned Computer Reservation Systems, 49 Fed. Reg. 32,540, at 32,543 (1984) (codified at 14 C.F.R. § 255 (1988)).

38. The CAB issued its final rules on July 27, 1984. *United Air Lines*, whose own CRS held 27 percent (by revenue) of the travel agent market, challenged the rules as being beyond the authority of the CAB because the CAB had held no evidentiary hearings. Judge Posner, writing for the Seventh Circuit, ruled that under the CAB's authority to regulate "deceptive" practices, "the [CAB] proceeding clearly was adequate, and we uphold the rule without hesitation." *United Air Lines*, 766 F.2d at 1112.

39. Carrier-Owned Computer Reservation Systems, *supra* note 37, at 32,543.

40. *Id.* at 32,552.

41. *Id.* at 32,552-553.

access to 80 percent of all travel agents.⁴² Travel agents generally had proven to be more price-sensitive consumers of CRS's and therefore were capable of engendering competition among suppliers.⁴³ The DOJ's proposal would have taken advantage of this characteristic of the markets by forcing proprietary airlines to derive all their CRS fees from the more price-sensitive travel agents.⁴⁴

The CAB, however, rejected the zero fee proposal, observing that such a rule would unfairly favor subscriber airlines by allowing them to receive the benefits of CRS's without having to bear any of the costs of the systems.⁴⁵ Moreover, the CAB contended that price sensitivity might vary among travel agents themselves.⁴⁶ The CAB noted that in some sparsely travelled regions, where only a few airlines provide service, travel agents may have such limited choice that price is not a primary factor.⁴⁷ The CAB concluded that subscriber airlines should continue to pay for participation in the CRS's.

The CAB declined to regulate another discriminatory practice, proprietary airlines' attempts to print all multiple-carrier flight tickets only on their own ticket stock.⁴⁸ While a ticketing airline may be the carrier for only part of the flight, it is entitled to hold the entire fare until the passenger's travel is completed. Only then are the other carriers paid. This practice provides proprietary airlines with a substantial source of short-term cash.⁴⁹ The CAB reasoned that proprietary airlines have at least an equal claim to being ticketing carriers and that, as a practical matter, the current practice is not objectionable.⁵⁰ A mitigating factor was that, for half the tickets generated on American's SABRE system, for example, travel agents overrode the program default that automatically named American the ticketing carrier.⁵¹

The CAB did, however, attempt to eliminate screen bias, ruling that proprietary airlines could not use the identity of the airline as a criterion for determining the order in which flights were to be listed on the

42. *Competitive Abuses*, *supra* note 6, at 41,176.

43. Carrier-Owned Computer Reservation Systems, *supra* note 37, at 32,553.

44. *Id.* at 32,552.

45. *Id.* at 32,553.

46. *Id.*

47. *Id.*

48. *Id.* at 32,551.

49. *Id.*

50. *Id.*

51. *Id.*

screen.⁵² The CAB ruled that other criteria must be applied objectively and consistently for all carriers and across all markets.⁵³ Consistency was important to protect regional subscribers from proprietary airlines' tailoring their criteria to each local market.⁵⁴ Suppliers also were required to make screen arrangement criteria public in order to make policing of compliance easier.⁵⁵

These rules, developed at the request of the subscriber airlines, provided a benefit to the proprietary airlines by allowing them to abrogate existing contracts and execute new ones at higher prices.⁵⁶ Contracts between proprietary airlines and subscribers that conflicted with the CAB's new regulations were made void as of the date of the rules.⁵⁷ United, faced with a system operating on the basis of voided contracts, notified its subscribers, including Republic Airlines, that CRS service would be modified and new subscription contracts executed.⁵⁸ Republic's contract accordingly was cancelled and Republic was offered a new subscription contract with higher fees. Republic, which had generated a quarter of its business through United's system, signed the unfavorable contract under duress and filed suit.⁵⁹ Justice Scalia, writing for the D.C. Circuit, affirmed the lower court's judgment in favor of United, holding that the old contract violated the newly issued rules against arbitrary display preference and discriminatory pricing.⁶⁰ In a separate suit, Republic attempted to evade the higher-priced contract by directly challenging the new CAB regulations. This suit also was unsuccessful.⁶¹

In spite of these attempts to regulate the use of CRS's, subscriber air-

52. *Id.* at 32,550.

53. *Id.*

54. *Id.*

55. Carrier-Owned Computer Reservation Systems, 49 Fed. Reg. 35,507, at 35,508 (1984) (codified at 14 C.F.R. § 255 (1988)).

The CAB also required that proprietary airlines regularly update subscriber schedules. Late posting of changes confuses travel agents, could deter them from using subscriber airlines, and gives proprietary airlines opportunities to respond competitively to subscribers' actions before they take effect. Carrier-Owned Computer Reservation Systems, *supra* note 37, at 32,551.

56. Carrier-Owned Computer Reservation Systems, *supra* note 37, at 32,556.

57. *Id.* See also *supra* note 37 and accompanying text.

58. See Republic Airlines, Inc. v. United Air Lines, Inc., 796 F.2d 526, 528 (D.C. Cir. 1986).

59. *Id.*

60. *Id.* at 529-30.

61. *United Air Lines*, 766 F.2d 1107.

lines filed an antitrust suit,⁶² portions of which are still pending. The plaintiffs, several regional airlines, claimed that the defendants, American Airlines and United Air Lines, were monopolizing the air transportation and airline reservation markets through the use of their respective CRS's.⁶³

II. The Antitrust Litigation

A. Plaintiffs' Claims

Plaintiffs alleged that defendants violated the Sherman Antitrust Act,⁶⁴ and advanced three theories of recovery. The first theory was that defendants' CRS's are essential facilities for the distribution of air travel and thus should be controlled by the essential facilities doctrine.⁶⁵ The second theory applied the concept of monopoly leveraging, characterizing defendants' use of CRS technology as an attempt to leverage their monopoly in the CRS market to gain unfair advantage in air transportation markets.⁶⁶ The third theory was that defendants had monopolized, or were attempting to monopolize, national and local air transportation markets and the various markets for CRS service, however they are defined. The parties filed cross motions for summary judgment on these claims.⁶⁷

62. *Air Passenger*, 694 F. Supp. 1443.

63. The plaintiffs are: Continental Air Lines, Inc.; Texas International Airlines, Inc.; New York Airlines, Inc.; USAIR, Inc.; Pacific Southwest Airlines, Inc.; Aircal, Inc.; Ozark Air Lines, Inc.; Muse Air Corporation; Alaska Airlines, Inc.; Midway Airlines, Inc.; Northwest Airlines, Inc.; and Western Air Lines, Inc. American Airlines counterclaimed against all of the defendants except for Continental, Texas International, and New York Air. *Id.* at 1443.

64. 15 U.S.C. §§ 1-40 (1982).

65. *Air Passenger*, 694 F. Supp. at 1451.

66. *Id.* at 1472.

67. On August 8, 1988, the Court heard the following cross motions for summary judgment:

(1) Defendants moved for summary judgment on plaintiffs' claim based on the essential facilities doctrine and Section 2 of the Sherman Act.

(2) Defendants moved for summary judgment regarding the plaintiffs' claim that defendants are monopolizing or attempting to monopolize the CRS market and the SABRE/Apollo market.

(3) Plaintiff Continental moved for summary judgment on its claim that defendant American exercised monopoly power.

(4-6 & 8) Defendants moved for summary judgment on various claims that defendants had monopolized certain local CRS markets, the national air transportation market, and certain local air transportation markets.

(7) Defendant United moved for summary judgment on plaintiffs' claim that United monopolized the national CRS market.

The essential facilities doctrine historically has been applied to situations where a competitor's control of a distribution channel has resulted in that competitor having an unfair competitive advantage in an underlying market.⁶⁸ The essential facilities doctrine was employed successfully by MCI Communications to gain access to American Telephone and Telegraph Company's local telephone lines in order to compete in long-distance service.⁶⁹ The purpose of the doctrine is to prevent a competitor from achieving a monopolist's position in a market by virtue of its control over a facility that other competitors must use in order to compete in that market.⁷⁰ Courts will use the essential facilities doctrine to force the party controlling the essential facility to provide its competitors with reasonable access to it.⁷¹

The court in *Air Passenger* decided that, as a matter of law, defendants had not violated antitrust law under the essential facilities doctrine. The court held that a reasonable jury could not find any danger that defendants' CRS's enabled them to monopolize the underlying air transportation market. The court reasoned that competing CRS's would prevent such monopolization, and that defendants' market share was small enough that a claim of monopoly power in this market was "absurd."⁷² The court acknowledged that significant barriers to entry exist for any competing CRS but relied on the theory, proffered by Judge Posner in *United Air Lines*, that market forces will rectify any economic imbalance in the air transportation market.⁷³

Having found that there was no danger of monopoly in the national air transportation market, the court disposed both of the claim of

(9) Defendants moved for summary judgment on plaintiffs' monopoly leveraging theory.

(10) Defendant United moved for summary judgment on plaintiffs' claim for travel agent conspiracy.

Id. at 1475.

68. *Id.* at 1451.

69. *MCI Communications Corp. v. American Tel. & Tel. Co.*, 708 F.2d 1081, 1133 (7th Cir.), cert. denied, 464 U.S. 891 (1983).

70. *Air Passenger*, 694 F. Supp. at 1451. The facility need not be indispensable but its denial must impose a severe handicap on other potential competitors. See also *Hecht v. Pro-Football, Inc.*, 570 F.2d 982 (D.C. Cir. 1977), cert. denied, 436 U.S. 956 (1978); see generally W. HOLMES, ANTITRUST LAW HANDBOOK § 2.06 (1987).

71. *Air Passenger*, 694 F. Supp. at 1451.

72. *Id.* at 1456. ("American has never had more than a 14 percent share of the air transportation market. . . . A claim that a twelve to fourteen percent market share confers monopoly power is absurd, absent a showing that the air transportation market is characterized by a low elasticity of demand or supply.").

73. *Id.* at 1453.

monopoly of that market,⁷⁴ and of the claims based on monopoly leveraging in that market.⁷⁵ With one exception that did not rely solely on the use of CRS's, defendants' motions for summary judgment with regard to the claims of monopolization of local markets also were granted.⁷⁶ The court found that plaintiffs had not presented any evidence that the air transportation and CRS markets were anything but national in scope, and hence, local markets were not relevant markets for antitrust purposes.⁷⁷

B. Plaintiffs' Surviving Claims

The only significant claims surviving summary judgment in *Air Passenger* were those based on allegations that proprietary airlines monopolized or attempted to monopolize the national CRS market, or the respective SABRE and Apollo CRS markets, or both. To succeed on the monopoly claim, plaintiffs must show, *inter alia*, that the defendants have monopoly power in a relevant market.⁷⁸ Similarly, to succeed on the attempted monopoly claim, plaintiffs must show that defendants had a specific intent to monopolize a relevant market.⁷⁹ Both the monopoly

74. *Id.* at 1455-56, 1466-67.

75. *Id.* at 1474-75. The court went further and rejected the monopoly leveraging theory itself. The court reasoned that to the extent that monopoly leveraging is not coextensive with monopoly and attempted monopoly, it is inconsistent with the requirements of the Sherman Antitrust Act.

76. See *infra* note 79 and accompanying text.

77. *Air Passenger*, 694 F. Supp. at 1467.

78. *Id.* at 1460. ("The elements of monopolization under section 2 of the Sherman Act are (1) possession of monopoly power in a relevant market; (2) wilful acquisition or maintenance ('use') of that power; and (3) causal antitrust injury." (citing *Catlin v. Washington Energy Co.*, 791 F.2d 1343, 1347 (9th Cir. 1986))).

79. The Ninth Circuit Court of Appeals does not require a showing of a relevant market if specific intent to monopolize is demonstrated. See *Air Passenger*, 694 F. Supp. at 1468.

Lacking a showing of specific intent, the court in *Air Passenger* found that the national, rather than the local markets, were relevant. Plaintiffs' numerous claims of monopoly and attempted monopoly of local air transportation and local CRS markets all failed on summary judgment, with the exception of their claim concerning the local Dallas/Ft. Worth air transportation market. The court found that specific intent to monopolize on the part of American Airlines was shown by the following telephone exchange between American's president, Robert Crandall, and Braniff's president, Howard Putman, regarding flights from Dallas/Ft. Worth:

Putman: Do you have a suggestion for me?

Crandall: Yes, I have a suggestion for you. Raise your goddamn fares twenty percent. I'll raise mine the next morning. . . . We can both live here and there ain't no room for Delta. But there's, ah, no reason that I can see, all right, to put both companies out of business.

Id. at 1469.

claim and the attempted monopoly claim are dependent upon the determination of the relevant market, and both will be difficult to sustain if the relevant market is determined to be the national CRS market.⁸⁰ If, on the other hand, plaintiffs are able to show that the subscription base of any particular CRS constitutes a relevant market for antitrust purposes, a finding of monopolization of that market is likely to follow.⁸¹

III. Ramifications of the CRS Litigation

A. *Impact of Air Passenger*

The test applied in *Air Passenger* to determine a relevant market is generally applicable to information providers with an established subscription base.⁸² For a single subscriber base to be deemed a relevant market, the information provider must be immune from competitors providing comparable service.⁸³ The information provider, here the proprietary airlines, will be considered immune from competitors if found to have price-raising power or the ability to exclude competition.⁸⁴ Price-raising power is found where a proprietary airline is selling CRS

80. The court characterized as "not compelling" plaintiff's claim that defendants' CRS's were immune to competition from other CRS's and capable of exercising monopoly power in the national CRS market. However, the claim was not precluded as a matter of law. *Id.* at 1462-63.

81. The court cited with approval P. AREEDA & H. HOVENKAMP, *ANTITRUST LAW* (Supp. 1986), for the proposition that a relevant market is a monopolized market only if characterized by low elasticities of both supply and demand. Both parties in *Air Passenger* moved for summary judgment on the claim of monopolization of the CRS market. Plaintiffs pointed to the fact that both airline and agent subscribers had shown a low demand elasticity by not switching to lower-priced CRS's in response to price increases by defendants' for the use of their CRS's. Plaintiffs alleged that this demonstrated that each CRS represents a relevant market in which proprietary airlines have market power.

The court held that this low demand elasticity was sufficient to raise a factual issue as to monopoly and therefore denied the defendants' motions. But the court also denied plaintiffs' motions on this issue on the theory that a jury might find that a broader market, specifically the national CRS market, is the relevant market. If that were the case, then the relevant market might not be characterized by low supply elasticity because other CRS's could be substituted for defendants' systems. *Air Passenger*, 694 F. Supp. at 1458-59.

82. See *Air Passenger*, 694 F. Supp. at 1457-60.

83. *Id.* at 1457.

84. *Id.* ("The ultimate question is whether other . . . CRSs significantly constrain the price-raising power of American."). See also *United States v. CBS, Inc.*, 459 F. Supp. 832, 838 (C.D. Cal. 1978) ("A relevant submarket in one's own products will exist if such a submarket is (a) sufficiently distinct in commercial reality, and (b) is relatively immune from competition of substitutes, or (c) was acquired by means that show an attempt to monopolize.").

services for significantly more than marginal cost.⁸⁵ Therefore, an information provider selling significantly above marginal cost to its subscription base satisfies the elements of a relevant market. The *Air Passenger* court noted that determining marginal cost is notoriously difficult, and is a factual matter for the jury.⁸⁶

This test may make many purveyors of information look like monopolists. In the short run, many information providers may have price-raising power because their customers will be reluctant to abandon investments made in particular equipment and training employed exclusively in using the providers' service. Any large distributor of information with an established, invested subscriber base might look like a monopolist under the *Air Passenger* model if the distributor priced its service significantly above marginal cost.⁸⁷

The court's application of antitrust principles in *Air Passenger* establishes a threatening precedent for any purveyor of information. The Sherman Act allows for treble damages, making antitrust claims

85. *Air Passenger*, 694 F. Supp. at 1460 ("The test for monopoly pricing is . . . whether the price is significantly higher than the seller's marginal cost.").

86. The court reviewed cost figures for proprietary airlines gleaned from a Department of Transportation Report. The prices charged for a booking via SABRE averaged 233 percent over cost [sic], while the Apollo fee was 192 percent over marginal cost. The court ruled that these factual findings were probative evidence of monopoly, but that determinations of marginal cost were complex and of doubtful validity. Therefore, the court could not find as a matter of law that defendants either did, or did not, have monopoly pricing power. Determining the right number for marginal cost was left to the jury. *Id.* at 1461.

87. Marginal cost may be a poor measure of monopolistic behavior in information delivery markets, because proprietary firms may have to charge a price exceeding marginal cost. Data distributors have a financial structure much like that of regulated utilities, characterized by high fixed costs and low marginal costs. An information broker's marginal cost might never increase with increasing demand for its service. If marginal cost never increased, then marginal cost would always be below average variable cost, and well below average total cost (average variable cost plus average fixed cost). If price is below average total cost, the firm will eventually exit the industry because it will not be able to recover fixed or "sunk" costs, and the firm will not replace capital equipment. A firm will not produce at all (or, at least, not for long) when price is below average variable cost, because it will be losing a little money on each bit of information transmitted. See generally R. POSNER, *ECONOMIC ANALYSIS OF THE LAW* (3d ed. 1986).

For example, consider broadcast pay T.V. Once the transmitter is in place and broadcasting, the additional cost of another subscriber monitoring the signal is zero (assume the subscriber pays for its own signal decoder and any other hardware). *Id.* at 333. Any price the broadcaster charges will be above its marginal cost. Zero is below both its average variable cost and average total cost.

One theory of monopoly regulation is "average cost pricing," wherein the monopolist is permitted to price at average total cost. Given the nature of information delivery systems, average total cost is probably a better price threshold than marginal cost on which to base a finding of supracompetitive pricing and monopoly power on the part of a data distributor. See generally R. LIPSEY, P. STEINER & D. PURVIS, *ECONOMICS* (8th ed. 1987), for a discussion of microeconomics, especially chapter 13 in regard to monopoly regulation.

especially attractive to prospective plaintiffs. Moreover, the settlement value of a legal claim increases substantially once the claim survives summary judgment. The key factor for finding monopoly power is whether the information provider is selling its service at a price significantly above marginal cost, and the court in *Air Passenger* has decided that the determination of marginal cost—a complex, confusing and highly technical matter—is an issue for the jury.⁸⁸ This determination makes a monopoly claim against a supplier of information with an exclusive subscription base nearly impervious to summary judgment. This may increase the chance that unjustified claims against information providers will succeed.

B. New Applications of Information Technology

The importance of the legal status of CRS's is not limited to the airline industry. Numerous similar applications of information technology either exist or are in the planning stages.⁸⁹ The legal resolution of *Air Passenger* will have significance for many larger segments of the economy, including the commodity markets⁹⁰ and portions of the global capital markets.⁹¹

One of the most information-intensive markets in the economy is the \$4 trillion bond market. Companies such as Telerate and Reuters currently supply information to bond traders who buy, sell, and advise their clients based on price movements reported to them on their terminals.⁹² A fledgling company in New York City, Bloomberg Financial Markets, is attempting to redefine the business of providing electronic trading information by combining bond data with sophisticated analysis helpful to market participants. The company's founder, Michael Bloomberg, intends for his company to emulate the strategy of American Air-

88. *Air Passenger*, 694 F. Supp. at 1461.

89. See, e.g., *Control-the-Data Gambits Unfold in Other Industries*, Wall St. J., Sept. 22, 1988, at A26, col. 2.

90. In the wake of a massive investigation of trader fraud, the *sui generis* commodity trading pits may soon pass from the scene. Pits filled with screaming, arm-waving traders may be replaced by cool, calm electronic trading. See *Fraud Investigation Might Bring Futures Pits Into Computer Age*, Wall St. J., Jan. 25, 1989, at C1, col. 3.

91. See, e.g., *Plugging In: A Former Trader Aims To Hook Wall Street On-and-to-His Data*, Wall St. J., Sept. 22, 1988, at A26, col. 3 [hereinafter *Plugging In*].

92. *Id.*

lines and United Air Lines by "SABRE-izing" his system.⁹³ Mr. Bloomberg hopes to sell his system to other Wall Street investment banks, carrying their pricing information along with that of his financial backer, Merrill Lynch.⁹⁴ Mr. Bloomberg intends openly to bias the system in such a way that prospective buyers and sellers in the bond market will be disposed to make their trades through Merrill Lynch.⁹⁵

Mr. Bloomberg's strategy requires that his system, like those of the airlines, be sufficiently valuable to all prospective users that they would rather use it and endure the bias than do without it.⁹⁶ Apparently, Mr. Bloomberg's system has this value. The analytical power it offers traders, plus the ability it offers them to quote their bond prices to institutional investors, has raised the interest of several Wall Street investment houses.⁹⁷ Institutional investors also are commending the system for the value it offers them in investment analysis.⁹⁸

Unlike its airline industry models, Mr. Bloomberg's company is not already established in the industry, and its ability to emulate the successes of the Apollo and SABRE systems will depend on its ability to preempt the competition as United and American have done. But Reuters has long intended to develop an electronic market of its own.⁹⁹

93. *Id.* at A26, col. 1.

94. *Id.* at A1, col. 6. In return for start-up financing, Merrill Lynch prohibited Mr. Bloomberg from installing the system with Merrill's largest competitors. Mr. Bloomberg argues that this is old-fashioned monopoly advantage, and that Merrill would be better off exploiting the competitive advantages accruing to the purveyor of information, as was done with CRS's in the airline industry. The restrictive covenant, which expires January 1, 1991, has prevented Mr. Bloomberg from carrying bond quotes from other major bond market players, and has been a factor in limiting his installed base to a modest 5,000 terminals.

95. *Id.* at A26, col. 1 (quoting Michael Bloomberg) ("It's a fine balancing act, but I will help Merrill up to the point where it becomes so unpalatable it hurts the system.").

96. The market Mr. Bloomberg plans to create would be directly analogous to the CRS market. Merrill Lynch would be in the position of a proprietary airline, gaining the advantage from screen bias and competitive information. The other investment banks would be analogous to subscriber airlines, enduring the negative effects of the bias and being charged to list their prices on the system. The investors, as end users, would be in the same position as travel agents.

97. *Plugging In, supra* note 91, at A26, col. 3. Executives of Salomon Brothers, Morgan Stanley, Goldman Sachs, Drexel Burnham Lambert, Daiwa Securities America, and Nomura's U.S. affiliate have all expressed a desire to have Mr. Bloomberg's system in their bond trading operations.

98. *Id.* at A1, col. 6.

99. *Reuters Builds Its Own Little Stock Exchange*, BUSINESS WEEK, Nov. 10, 1986, at 48. ("Reuters has a dream. In it, thousands of traders around the world have Reuters terminals on their desks providing news, commodity prices, and stock quotes—all gathered by Reuters' information empire. Using specially designed software, dealers analyze this information, deciding what to buy and at what price. Then, by pushing a few buttons, they close deals—making Reuters a one-stop source for worldwide financial information.").

and Telerate has announced that later this year it will offer new versions of its terminals that permit more analysis of data.¹⁰⁰ Mr. Bloomberg is additionally disadvantaged in that his competitors are not aligned with any particular investment house.¹⁰¹

Mr. Bloomberg's plan clearly illustrates that proprietary airlines' use of CRS's is only one example of the potential abuse of information distribution systems. Indeed, other examples are currently available. J.C. Penney Co. and Sears, Roebuck & Co. are both trying to develop electronic malls where several retailers would display their wares.¹⁰² Such systems would create the ability to bias the presentation of products in favor of the proprietary company, and the opportunity for that company to access valuable sales history and marketing data of its competitors. To the extent that these systems create competitive advantages for their proprietors, they may satisfy the legal criteria for a relevant market, thereby exposing the proprietors to antitrust claims similar to those surviving summary judgment in *Air Passenger*.¹⁰³

Given the history of CRS, how should the legal system respond to such innovations? These types of information systems inherently involve conflicts between broad policy goals—encouraging investment in novel technologies versus promoting efficient, competitive markets free of monopolistic and unfair practices. The ideal response would satisfy both goals, avoiding strike suits and unwieldy regulation on the one hand, and anti-competitive practices, such as screen bias, on the other.

One possible response is to build a "Chinese Wall," a legal barrier of non-communication, around a separate subsidiary whose sole function is to operate the system. This would purportedly keep sensitive competitor information from flowing to the proprietary company.¹⁰⁴ However, even if statutorily adopted, this scheme would be difficult to police. Leakage of competitor information may be both unavoidable and undetectable when such information becomes sufficiently valuable. Litigation

100. *Plugging In*, *supra* note 91, at A26, col. 4.

101. This does not necessarily mean that Reuters, or Telerate, or any other competitor would not bias its system. Indeed, a competitor might explicitly do so for a fee (similar to a CRS cohort fee) for example, by charging investment banks fees for displaying their data depending on their willingness to purchase favorable bias or endure unfavorable bias.

102. *Control-the-Data Gambits Unfold in Other Industries*, Wall St. J., Sept. 22, 1988, at A26, col. 2.

103. See *supra* notes 77-87 and accompanying text.

104. This is the approach currently being employed by Sears and J.C. Penney in the operation of their electronic mall systems. *Control-the-Data Gambits Unfold in Other Industries*, Wall St. J., Sept. 22, 1988, at A26, col. 2.

necessary to define permissible and non-permissible data usage would be costly and unproductive, and innovative systems might not be developed because of uncertainty as to the application of the law.

A second option for protecting information system users would be to prohibit a system provider from having any stake in the underlying business. Under this scheme, airlines such as United or American, and brokers such as Merrill Lynch, would be required to divest their holdings in their respective information systems. Partial divestiture already has occurred in the CRS industry. In 1988, UAL Corp. sold a one-half interest in its Apollo system to USAir Group, Inc. and four foreign carriers for \$500 million.¹⁰⁵ In 1989, American Airlines and Delta Airlines combined their CRS's in a yet unnamed independent reservations company, with Delta paying American an additional \$650 million.¹⁰⁶

Divestiture would certainly reduce or eliminate insiders' ability to exploit the confidential information for anti-competitive purposes. The temptation for an independent provider surreptitiously to sell confidential subscriber information would be small and would carry legal and market disincentives. The disadvantage of such a system is that it would partially destroy the incentive to invest in such technological innovations. Once a company had developed a system with an inherent ability to bias or to create other anti-competitive advantages, the investing company's choices would be to sell it, abandon it, or implement it and risk an anti-trust suit. However, it is good public policy to create legal disincentives to developing information systems whose major value is the system's ability to create anti-competitive market advantages. Systems with value beyond their ability to bias could be sold to third parties for that value, causing the proprietor to forfeit only the value arising from the anti-competitive potential of its invention. Partial divestitures in the CRS business, at values many times the cost of investment, demonstrate that adequate rewards await the developers of innovative systems.¹⁰⁷

A third approach would be to regulate the operation of the system, as

105. *Delta, American Plan to Merge Reservations*, Wall St. J., Feb. 6, 1989, at B10, Col. 3. An American spokesman said that the sale was motivated in part by concerns that the company would be subject to a government divestiture order. However, the new American/Delta combination will be subject to a Justice Department examination of the antitrust implications of the merger.

106. *Id.*

107. The highest reported investment was \$160 million by American for developing its SABRE system. See *supra* note 6 and accompanying text. The American/Delta system is valued at \$2 billion. *Delta, American Plan to Merge Reservations*, Wall. St. J., Feb. 6, 1989, at B10, col. 3.

the CAB did with CRS. However, such a solution may be politically infeasible given the current anti-regulation climate. Even if feasible, this type of solution would entail the usual problems of regulatory oversight, such as industry capture and the potential stifling of innovation. A lesson also might be drawn from the CAB's regulation of CRS, which failed to prevent subsequent private antitrust actions.

A more limited form of regulation might provide adequate control of information technology, while avoiding unnecessary regulatory burden on the industry. Developers of information processing systems could submit the operating parameters of their proposed systems to the DOJ for approval. The DOJ could issue policy statements in response to a company's inquiry as to the possible antitrust proscription of the technology under development. These policy statements could be similar in function to Securities and Exchange Commission No-Action Letters or to the Private Letter Rulings of the Internal Revenue Service. Approval by the DOJ might not preclude private antitrust suits brought by competitors, but would inform courts as to acceptable practices. This scheme would allow innovators to proceed with risky investments with some assurance that what they produce will not be wrested from them by the courts. This approach would further the policies of encouraging investment and protecting the consumer, while minimizing costs to all interested parties.

IV. Summary

Over a period of fifteen years, from the early 1970's to the mid-1980's, CRS technology dramatically altered the economic relationships within the air travel industry. Proprietary airlines, operators of the CRS's, used low initial prices to agents and subscriber airlines to develop a market in the CRS service. Subscriber airlines soon found it necessary to be listed on the largest CRS's because of the increasingly large number of reservations booked through these systems. The cost of the systems to proprietary airlines was recouped in the underlying air transportation market by biasing the CRS's in favor of proprietary airlines. Biasing techniques included "screen bias," (the manipulation of flight listings in favor of proprietary airlines), and selection of the proprietary airline as ticketing airline whenever possible, enabling the proprietary airline to hold for short periods fares for air travel on competitor flights. Proprietary airlines also benefited from early access to changes in competitors' flight offerings, and exclusive access to market share information.

In the early 1980's, proprietary airlines had begun raising prices significantly to subscriber airlines. However, travel agents were less dependent on access to any one CRS. In order to gain or retain travel agents, proprietary airlines used strong financial and contractual incentives, including large cash payments for exclusive CRS installations at large travel agencies. Realizing that proprietary airlines had gained disproportionate market power, subscriber airlines and travel agents sought legal remedies.

The CAB responded to alleged abuses of CRS technology by promulgating a series of regulations that addressed most of the subscriber airline and travel agent complaints. However, proprietary airlines still reaped significant economic advantages from their control of the CRS's, and beginning in 1984, subscriber airlines filed suits against the proprietary airlines alleging violation of the Sherman Antitrust Act. These suits have been consolidated in an action in which a number of plaintiffs' claims have survived summary judgment.

Plaintiffs' surviving claims all relate to monopolization of either the national CRS market or the individual subscriber base of a particular CRS system. The tests the court used to determine monopoly power in a market made up of CRS subscribers may not be appropriate for CRS's, and may encourage litigation against other purveyors of information. A number of information delivery systems exist or are planned that are in many ways similar to CRS's, and the operators of these other systems may similarly be vulnerable to claims that they have monopolized their subscriber bases.

Various approaches could be employed to avoid the abuses of information delivery systems witnessed in the CRS industry. One possibility is to attempt to restrict access to information developed by the system to a subsidiary, and not permit access to this information to those portions of an organization that compete with subscribers in the underlying market. A second option is to avoid any participation by the information provider in the underlying market. A third approach is to regulate the operation of the information delivery system much as the CAB regulated the CRS's. Alternatively, a more limited regulatory procedure could be employed, modeled on Securities and Exchange Commission No-Action Letters or the Private Letter Rulings of the Internal Revenue Service. The DOJ could operate such a program as part of its antitrust portfolio. Such a limited regulatory solution would best promote the underlying policy goals of encouraging technological innovation and maintaining competitive markets.

