

ORIGINAL

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

RECEIVED

JUL 26 1994

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

In the Matters of  
Review of the Pioneer's  
Preference Rules  
Amendment of the Commission's Rules  
To Establish New Personal  
Communications Services

ET Docket 93-266  
Gen. Docket 90-314

**AMERICAN PERSONAL COMMUNICATIONS  
SUPPLEMENTAL COMMENTS ON REMAND**

Jonathan D. Blake  
Robert A. Long, Jr.  
John F. Duffy

COVINGTON & BURLING  
1201 Pennsylvania Avenue, N.W.  
Post Office Box 7566  
Washington, D.C. 20044  
(202) 662-6000

Attorneys for American  
Personal Communications

July 26, 1994

No. of Copies rec'd 025  
List ABCDE

## SUMMARY

The Commission has filed an Emergency Motion for Remand with the Court of Appeals stating that the Commission now has a fuller understanding of the "competitive implications" of awarding PCS pioneers a license without payment while requiring other PCS licensees to pay for licenses in an auction.

I. The "competitive implications" argument flunks Economics 101. Courts as well as economists have long recognized that "sunk costs" do not affect pricing and marketing decisions. As the attached Affidavit of Professor John P. Gould and Dr. Gustavo E. Bamberger demonstrates, that principle has two important implications for the pioneer's preference program. First, charging a pioneer for its license will have no effect on its actions, and thus will have no adverse impact on competition in the PCS industry. Second, because pioneers' behavior will not be affected by the amount they pay for their license, the amounts that other bidders will be willing to pay for their licenses will not be affected either. Arguments to the contrary rest on the "sunk cost fallacy" and are invalid.

II. There is no record evidence to support a "competitive advantage" theory. Petitioners in the pending court case have identified only two record references to such a theory. The first is merely a single sentence; the other covers less than two pages. Neither record reference provides any support for the competitive implications theory. Thus, if

the Commission charges pioneers for their licenses based on an unfounded fear of adverse competitive implications, its policy will not survive judicial scrutiny.

CONTENTS

Summary . . . . .	i
I. THE ARGUMENTS ABOUT A SUPPOSED "COMPETITIVE ADVANTAGE" ARE BASED ON THE FALLACY OF SUNK COSTS . . . . .	1
II. THERE IS NO RECORD EVIDENCE TO SUPPORT THE COMPETITIVE ADVANTAGE THEORY . . . . .	6

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

RECEIVED

JUL 26 1994

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

In the Matters of )  
)  
Amendment of the Commission's Rules )  
To Establish New Personal ) Gen. Docket 90-314  
Communications Services )  
)  
Review of the Pioneer's ) ET Docket 93-266  
Preference Rules )

TO COMMISSIONERS QUELLO, BARRETT AND NESS:

**SUPPLEMENTAL COMMENTS ON REMAND**

In its "Emergency Motion for Remand" filed with the Court of Appeals on July 8, 1994 (at 4-5), the Commission stated as the basis for its remand request that its "understanding of the PCS marketplace and the auction process has developed as it has resolved various issues." The Motion went on to say: "Specifically, for example, the Commission now has a fuller understanding of the competitive implications of one licensee receiving its license without payment while its competitors, under an auction process, must pay significant amounts for their licenses. American Personal Communications ("APC") files these Supplemental Comments to address that issue.

**I. THE ARGUMENTS ABOUT A SUPPOSED "COMPETITIVE ADVANTAGE" ARE BASED ON THE FALLACY OF SUNK COSTS.**

Various parties to these and other proceedings have made the erroneous argument that pioneers would have a competitive advantage over other PCS licensees unless the

Commission were to demand that successful pioneers pay for the PCS licenses that they previously earned through the investment of millions of dollars and years of effort in developing innovations.<sup>1/</sup> There is no evidence in the record to support that position. Nor will supporting evidence be forthcoming, because the argument ignores the most basic of economic principles: that "'[s]unk' (incurred) costs do not affect decisions on price and quantity." Posner, Economic Analysis of Law § 1.1, 7 (3d ed. 1986). The attached affidavit from Professor John P. Gould and Dr. Gustavo E. Bamberger demonstrates that this basic economic principle means that the amount paid by any PCS licensee for its license will be irrelevant to the licensee's economic behavior in the future.

Charging pioneers for their licenses will thus accomplish nothing in terms of improving competition; it will only succeed in imposing an immense inequity on pioneers and devaluing the Government's ability to honor a commitment. If the Commission institutes a policy of charging pioneers for their licenses and bases that policy on the unfounded fear of competitive disadvantages, the policy would certainly collapse under judicial scrutiny.

---

<sup>1/</sup> The Commission would not, as some have wrongly contended, be giving pioneers their licenses for "free." Pioneers earned their licenses through sacrifice, toil, creativity and investment (in APC's case an investment exceeding \$20 million) in very high-risk ventures.

As the affidavit from Professor Gould and Dr. Bamberger confirms, "[i]t is a fundamental economic concept that a firm's fixed costs do not affect its pricing and marketing decisions." Affidavit ¶ 11, at 5. In other words, sunk costs are just that -- sunk; they are "bygones and best forgotten as far as efficient pricing is concerned." 1 Kahn, The Economics of Regulation 73 (1988 ed.).<sup>2/</sup>

The principle that sunk costs are irrelevant to businesses is familiar to courts. For example, in MCI Communications v. AT&T, 708 F.2d 1081, 1116 (7th Cir.), cert. denied, 464 U.S. 891 (1983), the court held that the "fully distributed cost" (FDC) method of determining a firm's costs of production "fails as an economically relevant measure of cost for antitrust purposes because it relies on historical or embedded costs." As the MCI court explained, "it is current

---

<sup>2/</sup> As Judge Posner explains:

[C]ost to an economist is a forward-looking concept. "Sunk" (incurred) costs do not affect decisions on price and quantity. Suppose a plastic white elephant cost \$1,000 to build (\$1,000 being the alternative price of the inputs that went into making it) but that the most anyone will pay for it now that it is built is \$10. The fact that \$1,000 was sunk in making it will not affect the price at which it is sold, for if the seller takes the position that he will not sell the white elephant for less than it cost him to make it, the only result will be that instead of losing \$990 he will lose \$1,000.

and anticipated cost, rather than historical cost that is relevant to business decisions to enter markets and price products." Id. at 1116-17. "This factor may be particularly significant in industries such as telecommunications which depend heavily on technological innovation, and in which a firm's accounting, or sunk, costs may have little relation to current pricing decisions." Id. at 1117. See also Southern Pacific Communications v. AT&T, 740 F.2d 980, 1006 (D.C. Cir. 1984) (expressing "serious doubts about the usefulness of FDC as a measure of cost to be used in distinguishing lawful from predatory pricing"); NLRB v. Special Mine Services, Inc., 11 F.3d 88, 90 (7th Cir. 1993) (administrative law judge "made an elementary blunder" in considering "sunk cost[s]" incurred by a business; "[o]nly variable costs matter for ongoing operations").

This basic economic principle has at least two important implications for the pioneer's preference program. The first is that "charging [a pioneer] for its pioneer license will have no effect on [its] actions, and . . . will not have an adverse impact (or any impact) on competition in the PCS industry." Affidavit ¶ 16, at 7. Pioneers (and all other PCS licensees) will have every incentive to maximize the value of their business, and the decisions necessary to accomplish this will not be affected by costs already incurred. Id. ¶ 15, at 6-7. Thus, in determining the best strategy to compete in the market, pioneers will ignore the

costs of their license (the costs of their pioneering work plus any additional amounts charged for their license), just as other PCS licensees will ignore the amounts they paid for their licenses.

A second implication is that, because pioneers' behavior will not be affected by the imposition of additional sunk costs, the amounts that other bidders will be willing to pay for a license will not be affected by the amount the pioneers are required to pay for their licenses. Affidavit ¶ 18, at 8. This means that the Commission cannot justify charging pioneers for their licenses on the rationale that giving pioneers a "free" license will distort bids in the PCS license auction. Of course, this is a different issue from whether the number of licenses available at auction will affect the amount bid. Professor Gould and Dr. Bamberger demonstrate that charging pioneers for their licenses, rather than awarding them licenses based on their pioneering contributions, will have no competitive effects. As APC noted in its Emergency Request for Oral Argument, at pp. 6-7, it is widely believed that the effect of awarding a 30 MHz MTA license to a pioneer (with or without requiring a payment) will be to increase the amount bid at auction for the other 30 MHz MTA license, because it will be the only one available in that market.

In sum, there is no economic basis for Commission's fears that pioneers will have a competitive advantage or that

the auction bids will be distorted if pioneers, without being forced to make additional payments, are awarded their licenses on the basis of their prior efforts.

**II. THERE IS NO RECORD EVIDENCE TO SUPPORT THE COMPETITIVE ADVANTAGE THEORY.**

Despite the large volume of pleadings that have been filed in this matter, there is no record evidence to support the theory that awarding pioneers their licenses without charge would confer a competitive advantage on them.

Petitioners in the pending court case (Pacific Bell v. FCC, No. 94-1148 (D.C. Cir.)) have identified only two places in the record where parties even suggested such a competitive advantage theory. See Brief of Petitioners 19 n.18. One of these is merely a single sentence that is not explained or supported by anything other than pure assertion. See Comments of Pacific Bell and Nevada Bell 2 (Nov. 15, 1993) ("However an outright grant of a license would confer a significant cost advantage in a highly competitive market over firms which will be required to expend financial resources to successfully bid in auctions to acquire spectrum"). The other mention of competitive advantages covers just less than two pages and again draws economic conclusions with no authoritative or factual support whatsoever. See Comments of Paging Network 13-15 (Nov. 15, 1993).

The Commission's recent decision in Nationwide Wireless Network, No. 22888-CD-P/L-94 (July 13, 1994) (the

"Mtel order"), also identified no factual or authoritative support for the conclusion that awarding pioneer licenses without payment would have any competitive effects on the PCS market. The Commission hypothesized that the award to Mtel of a "free" license, while others are forced to pay substantial sums, "might have a significant adverse impact on the competitive marketplace." Id. at ¶ 17 (emphasis added). This would occur, the Commission speculated, because "a pioneer's preference recipient who receives a free license would likely enter the competitive market with a significantly lower capital investment than other licensees who bid and pay for their licenses," and this "difference would likely provide the pioneer's preference recipient with a substantial competitive advantage over its rivals." Id. ¶ 19 (emphasis added).

The Commission also theorized that "the entire bidding process may be distorted by awarding a pioneer's preference recipient a free license," because parties "may . . . be discouraged from bidding 'top dollar' or from bidding at all because of their concerns over entering a new competitive market saddled with significantly greater capital costs that could place them at a competitive disadvantage." Id. (emphases added).

Although it repeatedly justified its action on the basis of its "greater," "further," "fuller," and "clearer understanding" of its competitive bidding and auction rules, id. ¶¶ 15, 17, 18, the Commission at no point in the Mtel

order identified anything in its competitive bidding/auction rules that supported its judgment. Nor did the Commission point to any record evidence that would support its crucial theories on the competitive effects of the pioneer's preference. All that the Commission referred to was Pagenet's conclusory comments, which as noted above, were themselves based wholly on unfounded speculation without a hint of factual or authoritative support.

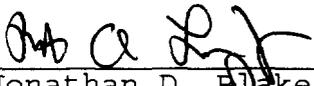
\* \* \*

There is no basis for the concerns that granting pioneers their licenses as a reward for their innovative work without additional charges either would create some sort of competitive advantage or would distort other bids in the PCS auction. These concerns are based on economic fallacy and have no support in the record. Furthermore, as noted in APC's prior Emergency Request for Oral Argument (at 3-5), the Commission itself is aware of many real-world examples disproving that differences in sunk costs distort market competition. A policy of charging pioneers substantial fees

for their licenses, based in whole or in part on erroneous concerns over such "competitive effects," is both senseless and invalid as a matter of law.

Respectfully submitted,

AMERICAN PERSONAL COMMUNICATIONS

By:   
\_\_\_\_\_  
Jonathan D. Blake  
Robert A. Long, Jr.  
John F. Duffy

COVINGTON & BURLING  
1201 Pennsylvania Avenue, N.W.  
Post Office Box 7566  
Washington, D.C. 20044  
(202) 662-6000

Its Attorneys

July 26, 1994

CERTIFICATE OF SERVICE

I, Kurt A. Wimmer, hereby certify that a copy of the foregoing pleading has been sent by hand delivery or by United States mail, first class postage prepaid, to the parties of record in ET Docket 93-266 and Gen. Docket 90-314 on this 26th day of July, 1994.

  
\_\_\_\_\_  
Kurt A. Wimmer

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matters of	)	
	)	
Amendment of the Commission's Rules	)	
To Establish New Personal	)	Gen. Docket 90-314
Communication Services	)	
	)	ET Docket 93-226
Review of the Pioneer's	)	
Preference Rules	)	

**JOINT AFFIDAVIT OF JOHN P. GOULD AND GUSTAVO E. BAMBERGER**

STATE OF ILLINOIS	)	
	)	: ss:
COUNTY OF COOK	)	

**I. QUALIFICATIONS AND INTRODUCTION**

1. I, John P. Gould, am a Distinguished Service Professor of Economics at the University of Chicago Graduate School of Business, where I have been a member of the faculty since 1965. For ten years, from July 1983 through June 1993, I served as Dean of the University of Chicago's Graduate School of Business. From 1988 through 1991, I also served as Vice-President for Planning for the University of Chicago. In 1978, I was Visiting Professor at the Graduate Institute of Economics at National Taiwan University. I received my S.B. degree from Northwestern University and my M.B.A. and Ph.D. from the University of Chicago. I have served as editor of the Journal of Business and Associate Editor of the Journal of Financial Economics and Journal of Accounting and Economics, and I am a member of the American Economic Association and Econometric Society. I have published numerous articles in scholarly journals, including the American Economic Review, the Journal of Political Economy

and the Journal of Business, and I am co-author of Microeconomic Theory, a leading textbook that covers all major areas of microeconomics. In addition to my academic and administrative experience, I served in Washington as Special Assistant for Economic Affairs for then Secretary of Labor George P. Shultz and in a similar capacity at the Office of Management and Budget. I am currently on the Boards of Directors of Dimensional Fund Advisors, the First Prairie Funds, and Harbor Capital Advisors. I also have been a Director of Vulcan Materials Company and Argonne-Chicago Corporation. I have testified in antitrust and other cases in U.S. Federal Courts and before the Federal Trade Commission. My Curriculum Vita is attached as Exhibit A.

2. I, Gustavo E. Bamberger, am a Vice President and Senior Economist at Lexecon Inc., an economics consulting firm that specializes in the application of economic analysis to legal and regulatory issues. I received a B.A. degree from Southwestern at Memphis and M.B.A. and Ph.D. degrees from the University of Chicago. While employed at Lexecon, I have performed numerous economic analyses of a wide variety of industries, including the telecommunications industry. I have served as an expert witness in U.S. Federal Courts, before the Illinois Commerce Commission, and in an arbitration proceeding. My Curriculum Vita is attached as Exhibit B.

3. We have been asked by counsel for American Personal Communications ("APC") to explain the economic consequences of awarding "pioneer preference" licenses for the provision of "broadband" Personal Communications Services ("PCS") to APC, Cox Enterprises ("Cox"), and Omnipoint Corporation ("Omnipoint").

4. Based upon our review of the PCS industry and basic economic principles, we conclude that:

- a) awarding pioneer preference broadband PCS licenses to APC and the other two firms will not have an adverse impact on competition in the PCS industry;

- b) awarding pioneer preference broadband PCS licenses at no cost instead of charging the pioneer firms for their PCS licenses will not affect the bidding process for other PCS licenses;
- c) charging the pioneer firms for their PCS licenses may reduce the incentive of telecommunications firms and other businesses to invest in "pioneering" technology in the future, thereby reducing the types and quality of services available to consumers.

5. The remainder of our affidavit is organized as follows. Section II provides a brief description of the pioneer preference program. Section III explains how we reach each of our three conclusions.

## **II. THE PIONEER PREFERENCE PROGRAM**

6. We understand that the pioneer preference program was established by the Federal Communications Commission ("Commission") to encourage the development of innovative uses of the portion of the electromagnetic spectrum devoted to telecommunications. We understand that the Commission rules envisioned the award of licenses at no charge to successful applicants to guarantee that the developers of new products and services would be able to offer them to the public.

7. We understand that the Commission received 96 applications for pioneer preference licenses for the provision of broadband PCS, including applications from each of the petitioners in the appeal arising from this proceeding. In 1993, the Commission selected APC, Cox, and Omnipoint to receive pioneer PCS broadband authority -- APC for the Washington, D.C./Baltimore major trading area ("MTA"); Omnipoint for the New York MTA; and Cox for the Los Angeles/San Diego MTA.

8. We understand that a pioneer will be allowed to sell its license after three years or after it completes a "build-out" of its system sufficient to provide service to one-third of the population in its licensed area, whichever comes first. A pioneer also must utilize the

technologies and services they pioneered.<sup>1</sup>

9. We understand that the Commission may modify its rules to require APC and other recipients of PCS pioneer preferences to pay for their licenses. For example, the Commission has ruled recently that Mobile Telecommunications Technologies Corporation ("Mtel"), the recipient of a pioneer preference for "narrowband" PCS, will not be awarded a license at no charge. Specifically, the Commission has conditioned Mtel's pioneer license on the requirement that Mtel "pay ninety (90) percent of the lowest winning bid for a nationwide narrowband PCS license or three million dollars (\$3,000,000) less than the lowest winning bid for a nationwide narrowband PCS license, whichever is less."<sup>2</sup>

### **III. THE ECONOMIC CONSEQUENCES OF PIONEER PREFERENCES ON COMPETITION IN THE PCS INDUSTRY**

10. Economists distinguish between two types of costs: variable costs, which depend on a firm's level of activity, and fixed costs, which are independent of a firm's output decisions. For example, the cost of steel is a variable cost for automobile manufacturers because additional steel is used whenever one more car is produced. The PCS licenses that the Commission had planned to grant to pioneers and to sell at auction are an example of a fixed cost because the expense of the license is a one-time cost for the purchaser that does not change after the fact (irrespective of the business decisions and activities of the license holder). By way of comparison, the license would be a variable cost if it involved an ongoing royalty payment that moved up and down over time depending on variations in the number of customers served or was an annual charge based on net revenues or some other measure of

---

1. 9 FCC Rec. 1337, 1373 para. 302 (1994).

2. Memorandum Opinion and Order, FCC File No. 22888-CD-P/L-94, July 13, 1994, para. 20.

business activity of the license holder.

11. Requiring APC to pay a fixed amount for its license (e.g., 90 percent of the lowest winning bid for a comparable license), instead of receiving the license without charge, would increase APC's fixed costs, but would have no effect on APC's variable costs. It is a fundamental economic concept that a firm's fixed costs do not affect its pricing and marketing decisions. For example, Milton Friedman, a Nobel Laureate in Economics, explains in his textbook on price theory:

[t]here may be some minimum sum that the firm is committed to pay to factors of production no matter what it does and no matter how its actions turn out. Since this unavoidable contractual cost is not affected by the firm's actions and will have to be met no matter what the firm does, its magnitude cannot affect the firm's actions -- "bygones are bygones," "sunk costs are sunk," etc.<sup>3</sup>

Paul Samuelson, also a Nobel Laureate in Economics, explains the same fundamental concept in his basic economics textbook:

"Fixed cost" represents the total dollar expense that goes on even when a zero output is produced. . . . It is a sunk cost that is quite unaffected by any variation in [output]; in the time period for which it is sunk, the only rule is this: Disregard Fixed Cost because [Fixed Cost] cancels completely out of every decision.<sup>4</sup>

Because the distinction between fixed and variable costs is a fundamental concept in economics, economists sometimes describe a confusion of the two as the "sunk-cost fallacy."

12. The importance of the fixed and variable costs distinction (and the related sunk-cost fallacy) is also recognized in law and legal decisions. For example, in his book Economic Analysis of Law, Judge Richard A. Posner explains that

---

3. Milton Friedman, Price Theory, 2nd ed., Aldine Publishing Company, 1976, p. 107.

4. Paul A. Samuelson, Economics, 8th ed., McGraw-Hill Book Company, 1970, p. 443.

cost to an economist is a forward-looking concept. "Sunk" (incurred) costs do not affect decisions on price and quantity.<sup>5</sup>

13. The courts also have been cognizant of the "sunk-cost" fallacy. For example, in a recent decision Judge Frank Easterbrook explains that

the Administrative Law Judge made an elementary blunder. . . . The ALJ [claimed] that to find the net savings one must subtract the cost of the oven. Not at all. This is a sunk cost, which Special Mine Services has incurred whether it uses the oven itself, gives the oven to a subcontractor, or throws the oven into Lake Michigan. Only variable costs matter for ongoing operations.<sup>6</sup>

14. The same fixed cost "elementary blunder" that Judge Easterbrook identifies is committed by petitioner Pacific Bell in its pleading to the United States Court of Appeals when it states that "giving PCS preference awardees their licenses for free even though all other PCS licensees must buy theirs at auction undercuts competition by giving one group of competitors an unfair cost advantage." The fixed or sunk cost error is committed again when Pacific Bell claims that "[t]hose who purchased licenses -- who must recover millions of dollars in capital costs -- would find it difficult to compete with preference recipients who received licenses for free."<sup>7</sup>

15. From the viewpoint of the ongoing economic, marketing and other business decisions, the relevant consideration is not the fixed cost paid for the license, but rather the current and future value of the license as an asset. Because the holder of a license has the right to sell the license, the license is an economic asset. If APC or any other license holder decided to

---

5. Richard A. Posner, Economic Analysis of Law, 4th ed., Little, Brown, and Co., 1992, p. 7.

6. National Labor Relations Board, Petitioner v. Special Mine Services, Inc., No. 92-4000, United States Court of Appeals for the Seventh Circuit, 11 F.3d 88.

7. Pacific Bell, Petitioner, v. Federal Communications Commission and United States of America, Respondents, Petitions for Review of Orders of the Federal Communications Commission, General Docket No. 90-314, ET Docket No. 93-266, Brief for Petitioners and Intervenors in Support Thereof, p. 13 and p. 18.

sell its PCS business in the future, it would be in its interest to take those actions that maximize the value of the PCS business.<sup>8</sup> But the ongoing pricing and marketing decisions that will maximize the value of a business are the same no matter how the license was obtained (e.g., via auction or the pioneer preference program). Thus, the relevant economic consideration for any license holder is whether to continue to use the license to be in the PCS business itself or to sell the license to another party. If the decision is to continue in business, then the proper economic cost is the foregone value of the payment from the sale of the license. This foregone value depends on current and future market conditions and opportunities not on what was paid for the license originally. Economists refer to the market determined value of the asset as its "opportunity cost," and this is the relevant cost for ongoing business decisions. Because this opportunity cost is the relevant business cost, the holders of PCS licenses are necessarily on a level economic playing field once the licenses have been allocated regardless of whether they were obtained through the pioneer preference program or the auction process.

16. Thus, granting APC its pioneer license without charge will have no effect on APC's actions, and thus will not have an adverse impact (or any impact) on competition in the PCS industry.<sup>9</sup>

17. In its Mtel decision, the Commission concluded that awarding licenses to pioneers at no charge may "distort" the bidding for the non-pioneer broadband licenses that are to be auctioned off by discouraging potential buyers "from bidding 'top dollar' or from bidding at all"

---

8. Even if the holder of a license cannot sell the license for a period of time, it will be in the license holder's interest to maximize the present value of the license (i.e., the future value of the license discounted to today's value). Thus, it is in APC's interests to take those actions that maximize the value of its PCS business even though it cannot sell its license immediately.

9. We understand that APC plans to enter the PCS business even if it is charged for its pioneer license.

because of the bidders' supposed concerns regarding the anticompetitive effects of the awards.<sup>10</sup> However, as we have explained, awarding licenses at no charge to pioneers will have no effect on their actions.

18. Because awarding APC, Cox, and Omnipoint licenses at no charge will have no effect on their actions, it will have no effect on the competitive environment faced by potential bidders for broadband PCS licenses, and thus will not "distort" any future bidding for licenses. That is, the amount that a bidder will be willing to pay for a license depends on the expected demand for future PCS, the expected cost of providing those services, and the expected degree of competition in the PCS business. Because the pioneers' actions will not be affected by having to pay for their licenses, none of these three factors will be affected by whether or not the pioneers receive their licenses at no charge, and so the amount that a bidder will be willing to pay for a license will not be affected.

19. Even if we assume, for the sake of argument, that for some reason the award of a license to APC, Cox and Omnipoint under the original conditions of the pioneer program will affect the price that potential buyers bid for a license (and we have explained why it will not), it would not affect the competitive nature of the industry. This is because the price paid for the license by the successful bidders becomes a fixed cost to them once it has been purchased. Thus, for the reasons described above concerning the "sunk-cost" principle, the successful bidders will make the same business and competitive decisions once they have obtained the license irrespective of its cost.

20. We have explained why there will be no harmful competitive effect from the Commission awarding the licenses to APC, Cox and Omnipoint in accordance with the original conditions of the pioneer preference program rather than conditioning the award upon the

---

10. Memorandum Opinion and Order, FCC File No. 22888-CD-P/L-94, para. 19.

payment of a substantial fee. There is, however, a social and economic harm inflicted by a Commission decision to change the rules of the pioneer program by charging the pioneer firms after the fact when they made a successful good-faith effort to meet the conditions of the original concept. This is equivalent economically to promulgating a public policy of awarding patents for successful innovators only to reverse the policy (and not give patents or substantially reduce the value of a patent) after the innovator has invested time and money to make the discovery. Such inconsistency in the application of public policy will have a chilling and deleterious impact on the willingness for businesses to plan and invest in risky but potentially valuable research and development activities. This inconsistency is precisely the kind of "political risk" that discourages business investment in politically unstable "third-world" countries.

21. Thus, while a policy of charging APC, Cox or Omnipoint for their licenses will not change their competitive behavior in the PCS business, there will be a potentially serious "spillover" effect in the future because other businesses will treat government pronouncements and promises with less trust and credibility. While the Commission may regret its earlier commitment to the pioneer program in light of its recently granted authority to allocate the spectrum through auction, this "regret" should not be a reason to make the situation worse by undertaking an action (namely, having the pioneer program award winners now pay for a license) that undermines the integrity of the public policy process. On this point we again cite Judge Posner:

[i]f regrets are allowed to undo decisions, the ability of people to shape their destinies is impaired. If a party for whom the terms of the contract to which he freely agreed turns out badly is allowed to revise the terms of the contract ex post, few contracts will be made.<sup>11</sup>

---

11. Posner, p. 8.

  
\_\_\_\_\_  
John P. Gould

  
\_\_\_\_\_  
Gustavo E. Bamberger

Subscribed and sworn to before me

this 23 day of July 1994.

  
\_\_\_\_\_  
Notary Public

My Commission Expires 7-13-96



## EXHIBIT A

### JOHN P. GOULD

University of Chicago  
Graduate School of Business  
1101 E. 58th Street  
Chicago, Illinois 60637  
(312) 702-9635

#### EDUCATION

S.B. (with Highest Distinction), Northwestern University, 1960.

M.B.A., University of Chicago, 1963.

Ph.D., University of Chicago, 1966.

#### POSITIONS

1984–present, Distinguished Service Professor of Economics, Graduate School of Business, University of Chicago.

1983–1993, Dean, Graduate School of Business, University of Chicago.

1974 –1984, Professor of Economics, Graduate School of Business, University of Chicago.

1988–1991, Vice-President for Planning for the University of Chicago.

1978 (Summer), Visiting Professor of Economics, Graduate Institute of Economics, National Taiwan University, Taipei, ROC.

1969–1974, Associate Professor, Graduate School of Business, University of Chicago.

1970, Consultant for Economic Affairs to the Office of Management and Budget, Executive Office of the President.

1969–1970, Special Assistant for Economic Affairs to Secretary of Labor, George P. Shultz.

1966–1969, Assistant Professor, Graduate School of Business, University of Chicago.

– 1965–1966, Instructor, Graduate School of Business, University of Chicago.

#### BIOGRAPHICAL SKETCHES

*Who's Who in America.*

*Who's Who in Economics, 1700–1980*, edited by Blaug and Sturges, MIT Press.

## EDITORIAL POSITIONS

Editor, *Journal of Business*, 1976–1983.

Associate Editor, *Journal of Financial Economics*, 1976–1983.

Associate Editor, *Journal of Accounting and Economics*, 1978–1981.

## PUBLISHED ARTICLES

“Market Value and the Theory of Investment of the Firm,” *American Economic Review* (September 1967), pp. 910–913.

“Adjustment Costs in the Theory of Investment of the Firm,” *Review of Economic Studies* (January 1968), pp. 47–55. Also available as reprint #106, Center for Mathematical Studies in Business and Economics, Department of Economics and Graduate School of Business, University of Chicago.

“The Substitution Effects of Transportation Costs” (with Joel Segall), *Journal of Political Economy*, 77 (1969), pp. 130–137. Also available as reprint #148, Center for Mathematical Studies in Business and Economics and the Graduate School of Business, University of Chicago.

“The Expected Utility Hypothesis and the Selection of Optimal Deductibles for a Given Insurance Policy,” *Journal of Business* (April 1969), pp. 143–151. Available at Center for Mathematical Studies as reprint #155.

“The Use of Endogenous Variables in Dynamic Models of Investment,” *Quarterly Journal of Economics* (November 1969), pp. 580–599. Reprints available from CMSBE.

“Diffusion Processes and Optimal Advertising Policy,” in *Micro-Economic Foundations of Employment and Inflation Theory*, E. Phelps, editor (1970), W. W. Norton Co. Published in Great Britain (1971) by Macmillan and Co., Ltd. Paperback edition (1973), W. W. Norton Co.

“The Micro-Economic Approach to the Demand for Physical Capital,” abstract in *Econometrica Supplementary Issue* (1966). Available as Center report #6633.

“The Neoclassical Model of Investment Behavior: Another View” (with R. Waud), *International Economic Review* (February 1973).

“The Economics of Conflicts,” *The Journal of Legal Studies* (June 1973).

“Risk, Stochastic Preference and the Value of Information,” *Journal of Economic Theory* (May 1974).

“Transactions Costs and the Relationship Between Put and Call Prices” (with D. Galai), *Journal of Financial Economics* (1, 1974).

“The Stochastic Structure of the Velocity of Money” (with C. Nelson), *American Economic Review* (June 1974).

“Inventories and Stochastic Demand: Equilibrium Models of the Firm and Industry,” *Journal of Business* (January 1978).

“The Stochastic Properties of Velocity and the Quantity Theory of Money” (with M. Miller, C. Nelson, and C. Upton), *Journal of Monetary Economics* (April 1978).