

**APPENDIX 3 TO COMMENTS OF**  
**TELUS COMMUNICATIONS INC. IN PN 2005-2**

**Economic Justification for TELUS’  
Two-Facilities Bright-Line Forbearance Test**

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<sup>\*</sup> Although this statement is highly personal and ultimate responsibility for it is mine alone, I must acknowledge how heavily it draws on my previous collaborations with Timothy J. Tardiff and has profited from his continuing assistance and review.

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## Summary

The CRTC has long recognized the superiority of competition over direct economic regulation and the consequent desirability of deregulation wherever and whenever effective competition exists and is likely to persist. It has also recognized that the increasing intensity of competition in telecommunications—both intra- and intermodal—has brought it to the point of having to decide when and where to forebear from continuing to regulate the services of incumbent local exchange carriers.

It therefore seeks specific, objective and readily administrable indicators of whether, when and where to take that step.

TELUS has offered just such an indicator—objective evidence of effective facilities-based competition in a well-defined geographic area, and highly likely to continue because the competitor has installed the facilities that permit continued service at relatively low marginal or incremental costs. In short, it provides a simple and efficient test:

- a sufficient objective indicator of actual, successful rivalrous behavior
- in markets—product, service and geographic—defined *by that behavior*
- whose sustainability is enhanced by the presence of heavy sunk investments, the scope of which defines the relevant geographic market—at correspondingly low incremental costs, and by the ubiquitous presence of wireless.

TELUS' proposed test is also entirely consistent with my own decades of academic writing and experience in advising how government authorities should establish and enforce the rules of competition, as well as in actively participating in the deregulation of the transportation and telecommunications industries. Among the principles I have consistently espoused are that:

- Competition is, above all else, a form of *behavior*, especially likely to persist when the rivals have already incurred the sunk costs of offering rival services using their own facilities.
- That competition—free from subsidy, artificial advantage or handicapping—is the essential precondition of economic deregulation; and when the precondition is met or readily achievable, deregulated competition is by far the superior method of serving the consumer and public interest.
- The most effective kind of competition is among burgeoning technologies—outstandingly exemplified by telecommunications—employing, respectively, copper, fiber, cable, wireless and satellite, all already deployed on a massive scale, and, on the horizon, the ubiquitous electric power lines.
- The relevant market, product and geographic, would be defined by the services and geographic areas in which competition actually occurs—in which customers can be served, at comparatively low incremental costs, by different kinds of facilities actually in place,.

## **I. Introduction**

1. My name is Alfred E. Kahn. My business address is 308 N. Cayuga Street, Ithaca, NY 14850. I am the Robert Julius Thorne Professor of Political Economy, Emeritus, Cornell University and Special Consultant with National Economic Research Associates, Inc. (NERA). I received my A.B. degree summa cum laude from New York University and my Ph.D. from Yale University, in 1942. I served as Associate Economist with the Antitrust Division of the U.S. Department of Justice in 1941-42; came to Cornell University as Assistant Professor in 1947 and have served successively as Chairman of

the Department of Economics, Robert Julius Thorne Professor of Political Economy, member of the Cornell Board of Trustees and Dean of the College of Arts and Sciences. I have been Chairman of the New York State Public Service Commission and of the (U.S.) Civil Aeronautics Board; and in my capacity as Advisor to President Carter on Inflation, I participated actively in the successful efforts of his Administration to deregulate both the trucking industry and the railroads. I am the author of the two-volume *The Economics of Regulation*, reprinted in 1988 by MIT Press, *Letting Go: Deregulating the Process of Deregulation*, published in 1998 by Michigan State University Institute of Public Utilities, *Whom the Gods Would Destroy or How Not to Deregulate*, published in 2001 by the AEI-Brookings Joint Center for Regulatory Studies, *Lessons from Deregulation: Telecommunications and Airlines after the Crunch*, published by the same AEI-Brookings Joint Center in January of this year, and have written and testified extensively in the area of direct economic regulation and particularly of the public utilities. In addition, I am the co-author of *Fair Competition, The Law and Economics of Antitrust Policy*, was a member of the Attorney General's National Committee to Study the Antitrust Laws and the National Commission on Antitrust Laws and Procedures in the Eisenhower and Carter Administrations, respectively; I have served as a consultant with both the Antitrust Division of the Department of Justice and the Federal Trade Commission; I was recently a member of the National Research Council – Transportation Research Board committee charged with reporting to Congress on the state of competition in the airline industry; and I have published numerous articles, particularly in recent years, on the requisites of efficient competition in regulated and previously regulated industries. I attach a copy of my full resume as Attachment A.

2. TELUS is proposing a bright-line metric for determining when the Canadian Radio-Television and Telecommunications Commission (CRTC) should forbear from regulating local exchange service offered by incumbent local exchange carriers: the presence of *actual* successful competition, employing *facilities* that are *capable* of offering service throughout the geographic area in which regulatory forbearance would apply.<sup>1</sup> In my judgment, this test should be taken as satisfying the criteria that this Commission has established for such determinations—namely, that the market in question be workably competitive and that the incumbent providers of the services no longer possess market power<sup>2</sup>—and is superior to it for reasons of both principle and practicability. As for the matter of principle, the presence of substantial market power—defined on the basis of the pure or perfect competition standard<sup>3</sup>—is likely to be both a concomitant and necessary condition of effective competition in an industry, such as this, subject to rapid technological change—which, as our patent laws recognize in principle, requires the prospect and reward of considerable market power in the exploitation of successful innovations if such highly productive competition is to prevail. More important,

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<sup>1</sup> TELUS proposes to apply the test separately to residential and business customers: the conditions of the test would have to be satisfied for each of these customer groups in order for forbearance to be granted to both within the geographic area considered.

<sup>2</sup> See, for example, Telecom Decision CRTC 94-19, Section III.B.

<sup>3</sup> Economists typically use the terms “market” and “monopoly” power interchangeably, as describing a situation in which the seller has some *discretion* in setting its prices. This usage, explicitly or implicitly, applies the standard of pure or perfect competition, under which sellers are mere “price takers” rather than “price makers.” But economists generally recognize also that the standard of pure or perfect competition is not only generally unrealistic, but incompatible with economies of scale or scope—or with the most effective form of competition, innovation—and that the possession of some discretion in setting prices—“monopoly power” under the pure or perfect competition standard—may therefore be the inevitable condition and accompaniment of “effective” or “workable” competition—as I discuss in paragraphs 24 through 26, below—and in no way automatically requiring governmental regulation. On the contrary. Whatever the adjective used to describe the kind of competition—such as the “workable” or “effective” that I use here—the intention is on the one hand to distinguish it from—and emphasize its preferability over—“pure” or “perfect”, and, on the other, to emphasize when and where it prevails it is superior to them and undermines any rationale for the imposition or continuation of regulation.

because the test would be applied to an industry whose technology is especially conducive to rivalrous competitive *behavior*, these characteristics, in conjunction with the actual rivalry that successful entry into a geographic area demonstrates, would serve as a much more powerful and conclusive, objective indicator that deregulation will succeed than the onerous, data-intensive yet inherently judgmental studies the Commission has previously outlined in describing how the absence of market power should be ascertained.<sup>4</sup> As I describe in detail below, the TELUS proposal properly focuses the attention of this Commission on establishing an environment in which the competitive *process* determines market outcomes and distributes benefits to consumers and away from the ultimately futile attempt of *predicting* what those outcomes are or should be. It is also entirely consistent with my own decades of academic discourse and experience in advising how government authorities should establish and enforce the rules of competition, as well as in actively participating in the deregulation of the transportation and telecommunications industries.

3. I trust I may therefore be indulged for explaining my enthusiastic support of TELUS' plea for regulatory forbearance in terms of my own personal—that is, professional—history, because I believe it will be the most effective way of explaining why I have eagerly grasped the opportunity to offer this testimony on its behalf.
4. I have been involved in one capacity or another with the regulation and deregulation of telecommunications for most of the last thirty-five years, going back to my five years or

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<sup>4</sup> For example, in Telecom Decision CRTC 94-19, the Commission recognized that the assessment of market power would first require a definition of the market in question and then assembly of information such as market shares and demand and supply conditions. While such considerations are unexceptionable in principle, in practice, as I will expound presently, (see pars. 24-32, below) the studies that they call for are typically not only onerous but inherently highly judgmental and contentious—the very opposite of the “bright line” the Commission quite properly seeks.

more membership on the National Economic Advisory Council for AT&T, then, in my role as Chairman of the New York State Public Service Commission, as a direct regulator of AT&T's New York subsidiary, the New York Telephone Company, then—after a few years' lapse devoted in important part to an involvement in the deregulation of the airlines, trucking and railroads in the United States—as advisor and occasional witness for one or another of the Bell successor companies. In all those last involvements, the common issues have been the closely interrelated ones of permitting or making possible the entry of competitors and ultimately deregulation of what had traditionally been treated as natural monopolies, closely regulated and excluding competitors by means of both government franchises and restrictions by AT&T on alien attachments and interconnections. My first such official involvement occurred in 1955 to '56, when, as a member of the senior staff of the Council of Economic Advisors to the President, I strongly criticized the decision of the Federal Communications Commission upholding the right of AT&T to prohibit the merely mechanical attachment of a plastic cup-like device, the Hush-a-Phone, as a means of providing more privacy for the speaker. During the last fifteen years or so my efforts have continued to be directed in opposition to regulatory interferences with and distortions of the competitive process and, most particularly after enactment of our Telecommunications Act of 1996, the ill-advised policies of our Federal Communications Commission attempting to encourage the entry of local competitors by requiring the incumbent companies to provide them not merely with otherwise unobtainable unbundled elements of their own networks but entire services, at wholesale, at prices set deliberately below the actual costs of the incumbents, both book and incremental.

## II. Economic background

### A. Economic rationale for forbearance

#### 1. Natural monopoly: the fundamental rationale for economic regulation of the telephone industry

5. The rationale for economic regulation of the telecommunications industry, including CRTC's current regime for regulating retail services, starts from the premise that incumbent providers possess market power—the ability profitably to increase and sustain prices above competitive levels for a significant period of time—sufficient to justify regulatory intervention.<sup>5</sup> Conversely, the common element in my long-standing position that competition should supplant regulation whenever possible is the principle, accepted at least verbally by all sides since the early '80s, that competition—free from subsidy, artificial advantage or handicapping—is the essential precondition of economic deregulation; and when the precondition is met or readily achievable, deregulated competition is by far the superior method of serving the consumer and public interest.
6. Two conditions are necessary for a firm to be able to exercise market power: (1) there must be little competition from existing firms offering close substitutes and (2) competitive entry into the market must be difficult. Absent those conditions, supra-competitive prices would be undermined by expanded offerings by incumbents or entrants or both—in which event it could be said that *effective competition* prevails. As I explain in greater detail below, the presence and burgeoning in telecommunications of facilities-based competition (as required by TELUS' proffered bright-line test), reflecting competitive, largely technologically generated developments that have transformed the

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<sup>5</sup> W.M. Landes and R.A. Posner, "Market Power in Antitrust Cases," *Harvard Law Review*, 94, 1981, p. 937. See also footnote 3, above.

industry in recent decades, demonstrate that competitors have entered, and, once they have done so, have been able to serve customers at relatively modest incremental cost. This ability of competitors to expand operations, employing their own facilities, serves as a powerful and enduring constraint on the incumbent's ability to sustain prices above competitive levels. At the same time, because these competitors also have relatively high fixed or sunk costs and low incremental cost, the likelihood that overly vigorous pricing by incumbents could permanently drive them out of the market is negligible (as I discuss in greater detail below and Professor Weisman and Dr. Crandall also explain in their separate declarations).

7. In contrast with industries such as the airlines or motor carriage, in which the rationale for regulation was their presumed inherent tendency to destructive competition, the economic justification for regulation in an industry such as telecommunications has been its characteristics of presumed natural monopoly, which therefore has to be constrained by regulation from exploiting the public.<sup>6</sup> But while economists consider the presence of natural monopoly a *necessary* condition for regulation, such conditions alone are not *sufficient* to conclude that the benefits from regulation outweigh the costs. This is especially true where, as in telecommunications, technological changes have revolutionized the industry: as observed by Professor Ronald Brauetigam, even when an industry narrowly defined exhibits characteristics of natural monopoly, *intermodal competition* may make regulation uneconomic, because such competition, from firms using different technologies (or from other industries, narrowly defined—such as cable

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<sup>6</sup> A monopoly is “natural” when at all likely levels of output, it is less costly for a single firm than two or more firms to produce it.

and telephone) constrains price to competitive levels.<sup>7</sup> For example, in freight transport, railroads, trucks and barges, using three different technologies, compete with one another sufficiently to have justified deregulation of all three. The same is true in broadband telecommunications, where cable modem service competes with the digital subscriber line (DSL) and fixed wireless.

8. The fact that natural monopoly is a necessary but not sufficient justification for economic regulation means that when technology, competitive entry and regulatory policy combine to erode the natural monopoly of an industry heretofore regulated on that basis, the economic justification for regulation erodes as well. Thus, the relevant question in telecommunications regulation shifts from whether a case can be made to adjust the broad parameters of a particular regulatory plan and/or to relax regulation for certain services to one of whether regulation should be continued in its present form at all.

## **2. The inexorable erosion of natural monopoly in telecommunications**

9. In this subsection, I review the technological and competitive developments that have been eroding the “naturalness” of monopoly throughout the telecommunications industry. While my review is based primarily on my observations of the United States, I understand that Canada has had essentially the same experience. In these circumstances, and as I explain more fully in a subsequent section, TELUS’ proposed test seems to me designed precisely to provide this Commission adequate assurance that competition is sufficiently strong and durable to warrant forbearance in the specific geographic areas in which the requisite conditions are demonstrably satisfied.

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<sup>7</sup> Ronald R. Braeutigam, “Optimal Policies for Natural Monopolies,” in Richard Schmalensee and Robert Willig, eds. *Handbook of Industrial Organization*, Vol. 2, pp. 1306-1309.

10. In contrast with the case of the airlines, in whose deregulation I played a leading role, it has been technological progress, above all, that first undermined then eventually destroyed the rationale for treating telecommunications as a closely regulated natural monopoly.<sup>8</sup> Major developments along the way have been

- the microwave revolution of a half-century ago, which created ultimately irresistible pressures on the Federal Communications Commission to permit, first, unregulated private, then common long-distance microwave carriage, beginning with MCI<sup>9</sup>; and
- fiber optics, permitting direct facilities-based competition in metropolitan areas ubiquitously, attracted by and undermining the regulatorily distorted rate structures—the grossly inflated access charges of the local companies for initiating and terminating long-distance calls and for the entire range of wholesale and retail services to businesses in order to generate multi-billion-dollar annual subsidies of the charges for basic residential service, especially in rural areas.
- cellular telephony—subscribership to which has soared in just the last few years to levels comparable to those of traditional fixed-line service;
- broadband—in which the cable companies have maintained a better than 1.6 to 1 lead over telephone companies in the United States and wireless and electric

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<sup>8</sup> See my exploration of this analogy in a paper presented at a conference, *The Digital Broadband Migration: Rewriting the Telecom Act*, in Boulder, Colorado, February 14, 2005, “Reforming the FCC and Its Mission: Lessons from the Airline Experience,” scheduled for publication in the *University of Colorado Journal on Telecommunications and High Technology Law*, Fall 2005 edition.

<sup>9</sup> See, e.g., Gerald W. Brock, “Dynamic Market Structure and Technical Innovation,” in Alan Baughcum and Gerald R. Faulhaber, co-editors, *Telecommunications Access and Public Policy*, Norwood, New Jersey: Ablex Publishing Corp., 1982; also my *The Economics of Regulation*, Vol. II (John Wiley, 1970 and 1971, reprinted by MIT Press, 1988), pp. 126-139.

power lines have already crossed the threshold—with its destruction of the distinctions among cable, wireless and—via voice over Internet protocol (VoIP)—circuit-switched telephony, between local and long-distance, intra- and interLATA, voice and data, telecommunications and “information” service. In these circumstances the conception of “natural monopoly” in the provision of any of these individual services has become meaningless.

11. This brief listing illuminates the respect in which telecommunications offers, almost uniquely, the opportunities for the most effective kind of competition: among burgeoning technologies employing, respectively, copper, fiber, cable, wireless and satellite, all already deployed on a massive scale, and, on the horizon, the ubiquitous electric power lines—all of these actually repressed in the United States, until this year, by the FCC’s opportunistic subsidization of mere resale of existing switched wireline services. This technological revolution recommends deregulation or something like it for reasons relating to both the demand and the supply side of these burgeoning services. On the demand side, the industry, however defined, is clearly offering or close to offering consumers universally the range of competing options—at least three, generally—that makes exploitation of them difficult to impossible. First, of course, there are the ubiquitous incumbent wireline telephone companies. Second are the wireless services: according to the FCC’s 2004 wireless report (which seems, however, to include resellers with facilities-based suppliers), about 97 percent of the U.S. population lives in counties with three or more providers of that service and about 30 percent in counties with seven or more; and competition among them, and with providers of wired service (one of which

is, however, usually one of the two original telephone company holders of a cellular license) is highly effective.<sup>10</sup>

12. Finally, even more directly replicating familiar “telephone” service, almost ubiquitously and with a distinct cost advantage, are the cable companies, whose share of the broadband market is larger than that of the phone companies<sup>11</sup> and, as Neuchterlein and Weiser point out, are in a position to offer telephone service at very low incremental cost—quoting Comcast Cable President Burke to the effect that

Whereas a phone company has to go out and spend tens of billions of dollars to put in place an infrastructure that can deliver video in addition to voice and data, we’ve already made the investment. So for us to sell a Verizon customer phone service costs under \$300. For Verizon to offer a customer fiber to the home costs in the thousands

—following upon which Cablevision in June 2004 offered its customers

for \$90 a month, cable modem service, digital TV and unlimited local and long-distance calling. As the *Wall Street Journal* observed, “Cablevision is effectively giving away phone service.”<sup>12</sup>

13. Since, however, the availability of those choices inevitably varies between sparsely and densely populated areas and between business and residential consumers, the possibility remains that some residual protections or subsidization may continue to be either desirable or politically unavoidable. The virtue of TELUS’ proposed forbearance test is

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<sup>10</sup> FCC, *Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, Released: September 28, 2004 (“FCC CMRS Report”). According to John Kneuer, Deputy Assistant Secretary of Commerce, NTIA, however, we do not have precise data on how much competitive service is actually available in all markets, large and small across the country. Robert M. Entman, *Reforming Telecommunications Regulation*, Aspen Institute 2005, p. 25. This uncertainty is irrelevant to the merits of the TELUS plan, because that proposal would require concrete evidence of the presence of facilities-based competition.

<sup>11</sup> TELUS reported that cable modem providers serve 60 percent of the broadband subscribers in its territory. Reply Comments of TELUS in PN 2004-2, October 13, 2004, ¶ 56. The CRTC reports a similar cable modem share throughout Canada. CRTC, *Status of Competition in Canadian Telecommunications Markets*, Report to the Governor in Council, November 2004, p. 51 (“CRTC Competition Report”).

<sup>12</sup> Jonathan E. Neuchterlein and Philip J. Weiser, *Digital Crossroads: American Telecommunications and Policy in the Internet Age*, MIT Press, 2005, p. 196.

that it confines deregulation to the markets in which the requisite competition actually prevails.

### **3. The economic necessity of timely regulatory forbearance**

14. When natural monopoly no longer characterizes an industry and when—and where—the market power that once dominant firms may have possessed is largely dissipated, regulated prices—both ceilings and floors—are not only unnecessary; their perpetuation both distorts and weakens competition and ultimately diminishes its benefits to consumers.
15. The reason why regulatorily-imposed price ceilings and floors cannot produce prices that reasonably emulate competitive outcomes stems from the fact that telecommunications competitors supply multiple services over a common network and, as any firm in that situation, confront differing demand conditions for those several services. In these circumstances, any attempt to regulate prices in a way that emulates competitive outcomes becomes difficult to impossible: indeed, that is why we rely on markets in the first place. In addition, such prescriptions can distort the investment decisions of the regulated firm, to the extent that the prices it can charge and the profits it can earn—both the mark-ups above incremental cost on its separate bundles of services and profits on the aggregate—inevitably differ from what they would be under unregulated competitive conditions. And to the extent competitors, many of which offer packages of services tailored to the needs of lucrative customers, are not similarly constrained—as indeed they should not be—the competitive playing field is tilted, inefficiently, in their direction.
16. A regulatory agency, typically concerned with protecting consumers, is likely to be suspicious first of requests by incumbent companies for relaxation of price *ceilings*, for greater freedom to price some services with markups above separately identifiable

marginal costs greater than others—explicitly or implicitly applying the theoretical standards of pure or perfect competition, under which all prices are held to those costs. Economists have long recognized, however, that a pure or perfect competition standard is not only unrealistic and unattainable, it is also incompatible with economies of scale and scope and innovation, all of which are intensely and beneficently prevalent in telecommunications. For well over a half century, therefore, we have sought to define and apply a norm of “workable” or “effective”—in opposition to pure or perfect—competition, not only compatible with but requiring wide divergences of prices from marginal costs, both severally and in the aggregate. This is the standard that TELUS’ request for regulatory forbearance would in effect apply, as I will explain presently.

17. When effective competition prevails, *and is highly likely to endure*, as TELUS’ proposed test is designed to permit and ensure, price *floors* can be just as injurious as price ceilings to the competitive process and the consumers whom it benefits. (I will not ignore the possibility that it may be predatory in intent or effect.) Establishing price floors forces the regulator to make bright-line distinctions between conduct that is a healthy aspect of the competitive process—a vigorous rivalry that results in enduringly lower prices, higher quality and innovative products and services—and conduct that is anticompetitive. In short, regulation that inhibits the offering of attractive bundles of services runs the risk of denying customers the benefits of vigorous competition.

18. Such preventive *regulatory* measures are injurious to competition in a number of ways. Explicit price floors invite petitions to regulatory agencies by competitors to increase the prices against which they have to compete—shifting the arena of competition from the marketplace, where it belongs, to regulatory hearing rooms, in quest of artificial

advantage.<sup>13</sup> For this reason, economists have long observed that claims that particular prices are too low are typically made not by consumers but by rivals whose profits would be greater if price competition were less vigorous.<sup>14</sup>

19. These injunctions against regulatory interferences with efficient price competition, by establishing floors under the prices charged by the incumbent companies, might appear to be contradicted by the enormous amount of attention devoted (by me and many others) *in the past* to the advocacy of long-run incremental costs as a basis for AT&T's responses to such competitors as MCI—rather than to the floors based on fully distributed costs, as espoused by its competitors.<sup>15</sup> The difference is that AT&T's prices and earnings in those years were still strictly regulated in the aggregate, and it therefore made a difference—in terms not only of what would ensure efficient competition between it and its early rivals, most prominently MCI, but also to purchasers of the monopoly AT&T

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<sup>13</sup> Dennis L. Weisman, "The Law and Economics of Price Floors In Regulated Industries." *The Antitrust Bulletin*, Vol. XLVII(1), Spring 2002, pp.107-131.

<sup>14</sup> ...  
the vast preponderance of regulatory and antitrust pricing cases, and almost all of the pertinent discussions, has been devoted to the limitations of price *reductions* rather than price *increases*. There is a very simple explanation for this anomaly. A seller's high prices are likely to be harmful to *customers*, but his low prices are apt to harm his *competitors*. The competitors (who themselves are often giants of industry) are in a far better position to organize effective protest than are the customers. Inscribing on their banners, "fairness in competition," "prevention of predatory pricing" and other equally persuasive mottos, they have not only succeeded in making headway among regulators, but they have even managed to shield themselves from the rigors of competition.

William J. Baumol, "Minimum and Maximum Pricing Principles for Residual Regulation," *Eastern Economic Journal*, Vol. V, 1979, p. 236.

<sup>15</sup> In view of his—entirely justified—deploring of the excessive attention to "the limitations of price reductions" in regulatory proceedings (note 14, immediately preceding) it is worth pointing out that Professor Baumol was himself a very active participant in those proceedings, arguing, entirely correctly, for floors based on long-run incremental rather than fully distributed costs. There was no contradiction here: so long as regulators were, inescapably, involved in setting floors for the services of incumbent LECs, because the still-regulated charges for basic residential services were based on the companies' residual costs, the setting of those floors was a necessary part of the regulators' responsibilities. So long as that was the case, it was indeed economically legitimate to ensure that the floors were set at levels compatible with efficient competition—i.e., at incremental rather than fully-distributed costs. *The Economics of Regulation, op. cit.*, Vol. 1, pp. 56-158, pp. 173-174 (and the section on fully distributed costs, generally, pp. 150-158).

services, whose regulated rates were typically based on a residual of the costs allocated to the competitive services. It should therefore not be surprising that in those protracted regulatory debates, the representatives of consumer organizations—intent above all on holding down the charges for basic residential service—made common cause with AT&T’s long-distance rivals—most prominently, MCI—in arguing for allocation of as much as possible of those costs to AT&T’s competitive services—attractive to the latter parties because of course it set a comfortable floor under the AT&T prices with which they would have to compete. Economist representatives of AT&T argued, correctly, that the floor for its competitive services compatible with efficient competition would be its much lower LRIC.

20. These considerations, it is worth reemphasizing, are no longer relevant: rate caps and regulatory forbearance have destroyed any possibility of incumbent LECs pricing competitive services below their incremental costs, in the expectation of recovering the consequent losses at the expense of still captive customers. The principal remaining advocates of rate *floors* are competitors of the incumbent local exchange carriers (ILECs), expressing fears that rate reductions by incumbents are or may be predatory—a possibility that I have myself recognized in other contexts.<sup>16</sup> The controlling response in the present context is that a critical component of TELUS’ proposed forbearance test is that the competition be facilities-based and therefore utterly unlikely to be driven out by its rate reductions: in these circumstances regulatorily-imposed price floors are highly

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<sup>16</sup> “Thinking About Predation—A Personal Diary,” in *Review of Industrial Organization*, Vol. 6, The Netherlands: Kluwer Academic Publishers, 1991, pp. 137-146; also “Comments on Exclusionary Airline Pricing,” *Journal of Air Transport Management*, Volume 5, Issue 1, January 1999, pp. 1-12.

likely to be protective merely of *competitors* rather than of *competition* and, therefore, injurious to consumers.<sup>17</sup>

21. Here, in contrast, what is at issue is simply where and when the rates for still-regulated services, already separated from the revenues from deregulated ones, should themselves be accorded regulatory forbearance. Retail telecommunications markets *are* unquestionably becoming increasingly competitive, and the nature of that competition is becoming increasingly complex. A variety of firms, a growing number of which are not dependent on inputs obtained from the regulated incumbents, are offering full packages of local, long-distance, Internet access and even video services. Under these circumstances, the proper course is not to go on allocating and reallocating costs between still-regulated and unregulated services but to deregulate the former when and where that competition is and promises to be sufficient to protect and actually benefit consumers. Once effective competition prevails and is highly likely to continue to prevail, as TELUS' proffered test would ensure, continued regulation of the incumbent is far more likely to suppress or distort competition than to preserve it.
22. Moreover, that impairment or distortion would be of the competition both most characteristic of telecommunications today and most beneficial to consumers—the competition between widely differing technologies—wireline, wireless, broadband or packet switching, electric power lines—the efficient results of which no regulator could possibly predict.

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<sup>17</sup> The hostility I have expressed here to price floors generally may appear to contradict my often-expressed concern in other contexts over the possibility of predatory pricing, potentially destructive of competition between incumbents and challengers. The sufficient answer, in my opinion, is that such issues are and should no longer be resolved by regulation but resolved, instead, under the antitrust laws or laws governing fair competition, to which TELUS and its competitors would be equally subject.

## **B. Necessary conditions for forbearance**

23. While the competitive and technological trends in the telecommunications industry make a compelling case for retail deregulation generally, this Commission has the responsibility of determining whether market power has eroded sufficiently in particular markets under its jurisdiction. The test TELUS is offering has the same objective as the approach to analyzing market power outlined in earlier decisions (e.g., Telecom Decision CRTC 94-19): its satisfaction requires that a formerly dominant firm be subject to an effectively competitive constraint. But how is one to decide whether, when or where that condition is and is likely to continue to be satisfied? This is precisely the question I had reached in my own thinking when approached by TELUS with its proposed solution.

24. Once again, I trust an allusion to my own professional history will be illuminating.

Before turning my attention primarily to economic regulation and deregulation—almost forty years ago—my specialty was the field of industrial organization and public policy, and specifically the antitrust laws. Economists had by then come to recognize, very generally, the only limited usefulness of a pure or perfect competition model—that their requirement that individual sellers confront a perfectly elastic demand was in at least many cases, perhaps most, incompatible with achievement of the economies of scale and—as Joseph Schumpeter most eloquently pointed out—with technological innovation, the most powerful and productive kind of competition; that, correspondingly, market or monopoly power—defined historically as something less than an infinitely elastic demand for a seller’s offerings might be—indeed, is probably generally—an inevitable prerequisite and accompaniment of such innovation.

25. It is crucially important to recognize that because of the capital-intensive nature of telecommunications networks and the economies of scale and scope realized especially by facilities-based providers, telecommunications competition does not, cannot, and should not be expected to comport with the textbook model of perfect competition, according to which many firms with identical technologies and cost structures compete on the basis of prices equated to marginal costs. Therefore, criteria of perfect competition—small market shares for all firms, standardized offerings, market prices equal to incremental cost, both short-term and long-term—are of little use in assessing the competitive prospects of this industry. Rather, the relevant inquiry properly focuses on the central question of market power: has facilities-based entry made supra-competitive retail prices unlikely? When TELUS’ bright-line test is satisfied, the answer is “yes.” Under these circumstances, to the extent that market shares appear high, they are most likely either a vestige of regulation or the consequence of successful innovation, and clearly not an indicator of ability to sustain high prices. To the contrary, the demand of customers for innovative products and the ability of alternative suppliers to satisfy that demand at attractive prices mean that there is no remaining market power.<sup>18</sup>
26. Accordingly, the literature in the industrial organization and the antitrust fields in the middle of the last century—inspired, in important measure, by a number of decisions of the U.S. Supreme Court that seemed to have been guided by the pure competition standard, condemning business size, integration or monopoly power *per se*—was replete with efforts to define the controlling characteristics of an attainable standard of “workable” or “effective” competition. In this quest, some commentators stressed (1) the

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<sup>18</sup> Thus, as has long been recognized in the economics literature, undue focus on market share can be highly misleading when demand and supply conditions are conducive to entry and expansion. See, for example, Landes

*structure* of the markets in question—the number of competitors in a relevant market, defined in terms of a gap in the chain of substitutes sufficient to permit a single seller to set prices above cost, their relative concentration or market shares, the possibilities of competitive entry and the like—others (2) the *behavior* of producers and suppliers, guided by the maxim that competition describes observable and meaningful rivalry, in ways beneficial to consumers; still others (3) the *performance* of the markets in question, guided by the principle that what is ultimately important and should be controlling is the observable economic consequences—the relation of prices to costs, the level and continuity of profits, the level of costs over time—efficiency and technological progress.<sup>19</sup>

27. In these continuing controversies, I have consistently expressed preference for the behavior criterion. While in no way denying the logic of the proposition that if a market is not *structurally* competitive—i.e., does not contain actual competitors, is not open to competitive entry or market interpenetration—it is not going to be effectively competitive, I also recognized that concentrated or oligopolistic markets—from cigarettes to automobiles (before imports became a powerful constraining force) to electronics—could show widely diverging kinds of performance,<sup>20</sup> and definition of the relevant market would itself be subject to controversies over the relevant elasticities of demand and supply. As to the performance test, I have cited the virtual impossibility of knowing to

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and Posner, *op. cit.*, pp. 947-951.

<sup>19</sup> See Dirlam and Kahn, *Fair Competition: The Law and Economics of Antitrust Policy*, Ithaca, NY: Cornell University Press, 1954, especially chapters 1 (“The New Criticism of Antitrust”) and 2 (“Legal and Economic Standards for Antitrust Policy”) and my “Standards for Antitrust Policy,” *Harvard Law Review*, Volume 67, November 1953, pp. 28-54, reprinted in American Economic Association, *Readings in Industrial Organization and Public Policy*, 1958, pp. 352-375.

<sup>20</sup> “Big Business in a Competitive Society” (with A.D.H. Kaplan), *Fortune*, Volume 47, Supp., February 1953.

what extent an apparently “good” performance was actually explicable by effective competition or, instead, the inherent potential of the industry’s technology and, the converse, the unpredictability of the results that effective competition would produce or would have produced. Overall, it is worth repeating the sage observation of the renowned Professor George J. Stigler about such overall economic assessments:

To determine whether any industry is workably competitive, therefore, simply have a good graduate student write his dissertation on the industry and render a verdict. It is crucial to this test, of course, that no second graduate student be allowed to study the industry.<sup>21</sup>

28. This sardonic observation, with whose implications I agree and have agreed over the last half-century, does not exclude the possibility of a rational basis for regulatory forbearance. On the contrary, it merely excludes the application of a thoroughgoing economic evaluation of market structure or performance. Competition, I have consistently maintained in support of my preference for the behavior criterion, is a *process*, a kind of behavior of participants in a market. Its results are inherently *unknowable, unpredictable*—hence my consistent response to the question, “What is the structure of the airline industry going to look like after you have deregulated it?” or, today, in view of the profound financial difficulties of the major hub-and-spoke carriers and the increasingly successful competition of the more or less point-to-point low-carriers, “What is the structure of the industry likely to be in, say, five years?”: If the

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<sup>21</sup> “Report on Antitrust Policy: Discussion,” *The American Economic Review, Papers and Proceedings*, Volume 46, May 1956, p. 505. Similarly, reflecting my on skepticism of the usefulness of an essentially “economic” standard—whether in appraisals of market structure or of economic performance, such as was sought by its economist members—see my comment about our chapter VII, “Economic Indicia of Competition in Monopoly,” of the Report of the Attorney General’s National Committee to Study the Antitrust Laws (of which I was a member), March 31, 1955:

The ironic fact is that chapter VII is where it is because that is as close as the lawyers could with propriety put it to the back door, through which most of them were quite prepared to throw it. Even there, it is thoroughly hedged with statements—sometimes italicized for good measure—to the effect that any relationship between its economic discussions and the law, living or dead, is strictly coincidental.

answer to that question were knowable, there would have been no reason or need to deregulate”<sup>22</sup>

29. The same conception has been at the heart of my continuing, intense criticisms over the last nine years of the standard adopted by the Federal Communications Commission for setting the prices of the unbundled network elements (UNEs) that the incumbent local exchange companies were required to make available to would-be competitors—namely, the cost of hypothetically ideally efficient suppliers, writing as it were on a blank slate (the so-called TELRIC<sup>23</sup> standard), in preference to the actual costs, either book or incremental, of the incumbents:

In unregulated markets, prices tend to be set on the basis of the actual costs of incumbent firms, and they should be. The economic purpose of prices set at incremental cost is to inform buyers—and make them pay—the cost that society will *actually* incur if they purchase more or would *actually* save if they reduced their purchases, entirely or partially. These can only be the costs of the supplier whose prices are being set, not some hypothetical ideal producer. Moreover, such prices give challengers the proper target at which to shoot—the proper standard to meet or beat and the proper reward if they succeed.<sup>24</sup>

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<sup>22</sup> “Applications of Economics to an Imperfect World,” The Richard T. Ely Lecture, *The American Economic Review, Papers and Proceedings*, Volume 69, No. 2, May 1979, p. 6:

Our uncertainty about the outcome of the competitive struggle is no reason to prevent its taking place; the only sensible prescription is to give competitors freedom to slough off their artificial handicaps by entering and leaving markets, as they please.

Moreover, if we cannot *predict* how these offsetting advantages and handicaps of the several carriers are likely to work out under a regime of free entry, it seems to me even less likely that we can hope to achieve the most efficient performance of the transportation function by *prescribing* how the thousands of markets should be served, as the proponents of the status quo would have us do. I find it difficult to see how these uncertainties tilt the balance in the direction of a reliance on predictably ignorant regulation in preference to an uncertainly predictable market process.

<sup>23</sup> “TELRIC” is the acronym for “total-*element*, long-run incremental cost,” which is similar to the more familiar “total *service*, long-run incremental cost” (TSLRIC) concept in the regulatory economics literature.

<sup>24</sup> Alfred. E. Kahn, Timothy J. Tardiff and Dennis L. Weisman, “The Telecommunications Act at Three Years: An Economic Evaluation of Its Implementation by the Federal Communications Commission,” *Information Economics and Policy* 11, 1999, pp. 329-330.

30. It is these conceptions—that competition is, above all else, a *process*, a form of behavior whose results are inherently unknowable, and that the only continuously reliable competition must be facilities-based, at wholesale as well as at retail, if it is to be reliable and truly effective<sup>25</sup>—that led me to respond immediately and enthusiastically to the TELUS proposal as a solution to the problem of deciding when and where to deregulate. The relevant test for responding to the question, “When can we reliably leave the service of consumers to deregulated competition?” is, according to both my historically expressed preference and the TELUS proposal: Where have rivals constructed their own facilities and are in a position to compete for customers? Are sellers actively doing so? Is the competition real, in the sense of offering genuine alternatives—defined as alternative bundles of services at differing prices—and likely to survive? The relevant market, product and geographic, by this test, would be defined by the services and geographic areas in which competition actually occurs, *and* customers can be served by alternative facilities actually in place, at comparatively low incremental cost. Additional guarantees would be provided by developing technologies immediately on the horizon, providing third and fourth platforms—wireless, satellite and the Internet—further dissipating any skepticism about the sufficiency of duopoly. Its recognition of the importance of sunk costs—i.e., the costs of facilities already in place—providing a powerful indication of the motivations of incumbents to continue to compete rather than settle into oligopolistic quietude (“You stay in your market, I stay in mine”; “You keep

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<sup>25</sup> This has been a consistent basis for my criticisms of the FCC’s overly expansive definition and primarily hypothetical basis for costing and pricing of the UNEs—that they discouraged competitors’ constructing and equipping their own facilities, even where it otherwise would have been economical for them to do so. See my *Lessons from Deregulation: Telecommunications and Airlines after the Crunch*, Washington D.C.: AEI-Brookings Joint Center for Regulatory Studies, 2004, pp. 28-41.

your customers, I keep mine”) or to hit and run—caused me immediately to be attracted to the TELUS proposal.

31. TELUS’ method of assessing the presence and viability of competition avoids the dependence on both independent structural analysis—of the relevant market, of elasticities and cross-elasticities of demand—and evaluations of the economic results, the uncertainty and complexities of which were graphically characterized by Professor Stigler. It provides simple and efficient tests:

- a sufficient objective indicator of actual rivalrous behavior
- in markets—product, service and geographic—defined *by that behavior and the reach of their existing, competitive facilities*,
- whose sustainability is enhanced by the presence of heavy sunk investments, the scope of which defines the relevant geographic market—and correspondingly low incremental costs.

32. The question is, then, what is to be the simple, objective signal—avoiding the Stigler dilemma—that effective competition actually prevails and is likely to endure and defines the relevant market, in which its sufficiency may be reasonably adjudged and forbearance justified? In my opinion, TELUS’ specific proposal satisfies those requirements. It clearly does provide a ready, simple yet definitive solution. It calls for clear, objective evidence of (a) effectively rivalrous, facilities-based competitive behavior that (b) is highly likely if not certain to continue and expand, (c) in a market that can readily be defined in terms of the reach of facilities actually in place.

33. TELUS’ proposed tripping signal of 5 percent sounds low. Yet the figure must clearly be

- low enough to avoid soft competition by the incumbent, TELUS, until the (higher) limit is reached, such conduct as, by general agreement, United States Steel Corporation exhibited during decades after its formation—holding a price umbrella over its rivals and accepting the consequent decline over decades in its share of national raw steel production from 61 to 33 percent between 1904 and 1938, by competing “softly,” in hope—which proved indeed to be justified—that it could in this way escape antitrust condemnation;<sup>26</sup>
- yet, of course, high enough to ensure that the competition is genuine and likely to persevere *and expand*—assurances all provided by (a) requiring evidence of actual genuine rivalry, (b) defining the applicable geographic market in terms of reach of *already existing* competitive facilities sufficient to ensure that the rival will not only not be driven out or choose to depart the market, but, instead, continue aggressively to expand the scope of its already demonstrated vigorous rivalry to expand the share of the market already servable by its existing facilities.

34. The reliance of TELUS’ proposed tripping point on the presence of only two competitors would in other circumstances have caused me hesitation: duopoly may well not in itself be dependably competitive. Although the circumstances in telecommunications—the dynamic character of its technology, the prospect of additional facilities-based competition, for example, of electric companies, and the differing cost structures of the two terrestrial competitors—suggests that two such may well suffice, I have myself taken into account, in endorsing the TELUS proposal the pervasive competition of a third—

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<sup>26</sup> Walter Adams and Hans Mueller, “The Steel Industry,” in Walter Adams, *The Structure of American Industry*, Eighth Edition, New York: Macmillan, 1990, pp. 72, 76; F.M. Scherer, *Industrial Market Structure and Economic Performance*, Chicago: Rand McNally, 1970, p. 217.

independently owned wireless service. This Commission has reported that as of 2003 (1) two-thirds of Canadian households subscribed to wireless<sup>27</sup> and (2) there are providers unaffiliated with incumbent wireline providers throughout the country. Indeed, the CRTC noted that TELUS' competitors in particular have 49 percent of such wireless subscribers in British Columbia and 35 percent in Alberta,<sup>28</sup> which presumably explains why the Commission has already refrained from regulating that service.

35. Rather than relying on inherently onerous, time-consuming and highly judgmental determinations of relevant markets and market shares and estimations of demand and supply elasticities to appraise the effectiveness of competition, the test relies on the fact that (1) the technology and cost characteristics of firms in this industry are conducive to intense rivalry, once entry has occurred *and* (2) significant entry has indeed occurred and is highly likely to persist and expand in scope. History has demonstrated that the presence of such rivalrous behavior in industries whose characteristics are conducive to its continuation and expansion is a much more reliable indicator of the desirability of deregulation than any attempts to compare an industry's actual performance with the predicted results of hypothetically effective competition: an ounce of experienced competitive behavior is worth a pound of prediction.

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<sup>27</sup> CRTC Competition Report, p. 102.

<sup>28</sup> *Ibid*, p. 64.

### **III. Offers of packages of telephone and other services by cable companies in a particular geographic area are a definitive indicator of effective local exchange competition within the reach of their facilities**

#### **A. Cable companies' offers of local exchange services indicate high supply and demand elasticities**

36. When cable companies take advantage of their scope economies by offering local exchange services in conjunction with video and broadband,, they exert strong competitive pressure on incumbent telephone companies in a number of ways. As I have already pointed out, so far as broadband is concerned, because these companies have already typically incurred the large capital cost associated with building facilities that pass a large proportion of customer locations, in order to offer digital cable television and high-speed (broadband) Internet access, upgrading their networks to offer local exchange service is far less costly than it is for incumbent telephone companies to upgrade their networks to offer the same competitive triple play of voice, broadband data, and video.<sup>29</sup> And once they have begun offering local exchange service, they are able to expand their subscribership quickly throughout the area at low additional costs per customer,<sup>30</sup> thereby defeating any attempts by the incumbent telephone companies, if deregulated, to increase their rates, because the cable company could easily offer competing service throughout the area, as defined by the TELUS proposal. The presence of the facilities-based cable

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<sup>29</sup> Nor should the cable companies be prevented in any way from reflecting that incremental cost advantage in their incremental charges for adding telephone service to their traditional offerings, any more than the telephone companies should be or should have been required to allocate to their regular telephone services any net profits from their more competitive offerings. "How to Treat the Costs of Shared Voice and Video Networks in a Post-regulatory Age," Policy Analysis, #264, Cato Institute, November 27, 1996.

<sup>30</sup> For example, less than three months after introducing telephone service in Calgary, Shaw, a cable company, announced the extension of this service to Edmonton. At the time of the announcement Shaw reported that service was then available to 25 percent of homes it passed and by the end of the year, it will be available in all its major centers. April 27, 2005 press release. See also Robert Crandall's Declaration in this proceeding on behalf of TELUS, ¶ 22, 49 and 62.

company ensures a high elasticity of supply by competing providers of telephone service, eliminating whatever market power the incumbent telephone companies may have once possessed. And this competitive discipline is enduring because the incumbents have no realistic prospect of driving competitors out of the market by charging anticompetitively low prices, in the hope of being able recoup the losses by charging higher prices after the predation has succeeded.

37. Further, cable television and other providers have typically entered with innovative offerings at attractive prices. For example, Timothy Tardiff and I have pointed out elsewhere that cable television and other facilities-based entrants have undercut the offerings of incumbents by 30-40 percent.<sup>31</sup> Similarly, Shaw offers a comprehensive voice telecommunications package for \$55 per month in Calgary and Edmonton, which is competitive with what TELUS currently offers.<sup>32</sup> The attractiveness of these novel offerings, demonstrated by the willingness of customers to transfer their patronage to the cable companies, must severely limit the ability of the incumbents to charge prices above a competitive level, if deregulated.

**B. The cost structures of incumbent and facilities-based entrants are especially conducive to effectively competitive behavior that is highly likely to persist once entry has occurred**

38. Vigorous competition is the likely outcome of ubiquitous entry by cable providers not only because of their ability to expand their volumes at low incremental costs by making attractive offerings to consumers, but also by the disproportionately harmful effect of even a modest loss of sales by the incumbent providers. In a companion statement,

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<sup>31</sup> Declaration of Alfred E. Kahn and Timothy J. Tardiff, on behalf of Verizon, Federal Communications Commission WC Docket No. 04-313 and CC Docket No. 01-338, October 4, 2004.

<sup>32</sup> In Quebec Videotron's prices for telephone service are lower than Bell's

Professor Weisman demonstrates that when entry has occurred, the high ratio of fixed cost to variable costs of traditional wireline phone companies severely limits their ability to sustain their prices or price increases above a competitive level. In particular, he demonstrates how inroads by facilities-based competitors quickly bite into the incumbent's profits and rapidly erode any ability it might have had to sustain supra-competitive prices. In textbook perfect competition (or industries that reasonably approximate it), prices equal marginal costs industry-wide, because there are numerous producers and any one of them that attempted to set prices higher than that level would lose all of its business. In contrast, equilibrium prices in industries whose cost structures include a large proportion of fixed or sunk costs are necessarily well above both average variable and marginal costs when, as the TELUS test would require, adequate capacity is already in place. The reason is simple—prices at marginal cost in these circumstances would fail to compensate the firm for its total costs. When industry output is sufficient to support only one such firm (i.e., when monopoly is natural) regulation can limit the necessary mark-ups so that profits are not excessive. When entry can occur, however, the potential for excessive prices may be of minimal concern—in fact, when total capacity of all competing firms exceeds demand at fully compensatory prices, competition can drive prices toward marginal cost to the point that the financial health of firms in the industry is jeopardized.<sup>33</sup>

39. The logic of Professor Weisman's exposition is straightforward. Firms with high fixed and/or sunk costs must charge prices well in excess of their average variable costs in

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<sup>33</sup> My *Economics of Regulation* (Vol. II, Chapter 5 "Destructive Competition and the Quality of Service") identifies the resulting destructive competition as the historical rationale for regulation of transportation industries such as airlines and trucking. This form of regulation, which was much more a form of protecting competitors rather than consumers, was widely abandoned in the U.S. over 25 years ago during my service in the Carter administration.

order to earn normal profits—profits capable of attracting investors, as needed. When such a firm loses customers to competition, its revenues decline much more than the costs it can avoid. If it attempted to increase prices, the lost profits (revenue minus avoided cost) from even a small decrease in sales can easily exceed the extra revenue obtained from the price increases on the sales that it continues to make.

40. I find it helpful to comprehend the important point Professor Weisman is making in terms of my own experience of encountering it—over 60 years ago—in the writing of Professor J. M. Clark, who is usually given credit, deservedly so, for expounding the standard of “workable” (in preference to pure or perfect) competition.<sup>34</sup> Professor Clark had himself, some 20 years previously, emphasized at length the importance of heavy fixed or sunk investment costs, which made pure or perfect competition not only infeasible but not ideal—for all the now familiar reasons (see par. 15 above).

41. In proposing the alternative criterion of workable competition, Professor Clark emphasized the importance of a reasonable prospect of companies recovering their heavy fixed or overhead costs, without intolerable fluctuations in price, yet sufficiently constrained and stimulated by competition to earn returns only sufficient to encourage desirable investments and, in particular, returns on risky, innovative investment—a point most eloquently elaborated by Professor Joseph A. Schumpeter—and constrained also by the threat of duplication and entry.

42. One strand in this assurance that oligopolistic competition might nevertheless be sufficient or “workable” was the notion that the prices charged by oligopolists would be constrained not merely by the elasticity of demand for their products, oligopolistic

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<sup>34</sup> J. M. Clark, “Toward a Concept of Workable Competition,” *The American Economic Review*, 30(2), June 1940, pp. 241-256.

competition, and the threat of entry, but also by what he referred to as “*margin elasticity*.” The higher the margins above variable costs contained in their prices the greater would be this margin elasticity and its constraint on the charging of excessively high prices: losses of sales would result in disproportionately larger losses in earnings above variable costs—the contributions to capital recovery and profits. The wider those margins the greater the constraint on the oligopolists (or duopolists) in increasing their charges.<sup>35</sup>

43. The implications of recognizing that wireline telecommunications departs widely from the textbook model of perfect competition are profound. When fixed and sunk costs are low—that is to say, most costs are variable—a competing product or service has to be a very close substitute to discipline the incumbent’s prices: a small price increase has to produce a disproportionately large loss in volume to be unprofitable, because when such a firm loses volume, the revenue loss is almost completely offset by cost savings. In contrast, firms such as facilities-based wireline carriers cannot sustain large losses in volume, because the lost revenues greatly exceed the savings in costs. That is, competing telecommunications products do not necessarily need to be very close substitutes for wireline services in order for attempts at supra-competitive pricing to be thwarted. Put another way, firms with large proportions of fixed or sunk costs need to retain large volumes of output and sales over which to spread and recover those costs.
44. These reassurances that the heavy fixed costs of the incumbent telephone companies and their exposure to increasingly effective intermodal competition—from cable and wireless—substantially limit their ability to raise prices or even maintain them above

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<sup>35</sup> J.M. Clark, *Competition as a Dynamic Process*, Washington, DC: Brookings Institution, 1961, pp. 148-50.

competitive levels may suggest an opposite danger: that they may be subject to the temptation to set prices too low, to the detriment of their *competitors*. As I (as well as Professor Weisman and Dr. Crandall) have already observed, there is no realistic prospect that telephone companies can drive their rivals from the market by engaging in predatory pricing. Accordingly, it is absolutely essential to keep in mind the fundamental principle: it is only competition on the basis of the comparative efficiency of the several rivals that protects consumers, holding prices down and quality—including service innovations—up; and efficient competition rewards suppliers on the basis of their respective *incremental* supply costs. It is simple protectionism—for which, inevitably, consumers ultimately pay—to interfere with or handicap that process, particularly in the misguided attempt to protect less-efficient competitors.<sup>36</sup>

**C. Effective local exchange competition is not limited to incumbents and cable companies**

45. While the availability of cable companies' local exchange offerings by themselves greatly attenuates the market power of incumbents, effective competition is reinforced by the presence of other types of competitors. When a cable customer subscribes also to its broadband offering (cable modem), a third party using VoIP can also offer a competing retail local exchange service. For example, Vonage offers competitive packages of local services, including such features as call-waiting, and long-distance to customers throughout the United States and Canada, at prices that are generally only a fraction of those charged by incumbents.

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<sup>36</sup> See the reference to my "How to Treat the Costs of Shared Voice and Video Networks in a Post-regulatory Age," note 30, above.

46. Other competitive options include wireless, which is generally ubiquitously available in the geographic areas where cable companies offer local exchange service. Wireless phones are becoming ever-closer substitutes for wireline services as indicated by the fact that the number of wireless phones is approaching wireline levels in Canada. Indeed, TELUS estimates that approximately 6 percent of households in its western ILEC territory have literally cut the cord, and do not use wireline service at all.<sup>37</sup>
47. Finally, under the terms of Telecom Decision CRTC 97-8 and other subsequent decisions, competitors can and do use unbundled elements provided by the incumbent companies to offer retail local exchange services. Such elements are available at regulated cost-based rates when they are deemed to be essential facilities, i.e., when they are necessary for competition and it is not economically and/or technically feasible for competitors to duplicate them.<sup>38</sup>

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<sup>37</sup> Crandall declaration, ¶ 26. Similarly, the FCC reports 5 to 6 percent of US households have “cut the cord.” FCC CMRS Report, ¶ 212. Other sources report that 14 percent of consumers use a wireless phone as their primary phone. “Landline Displacement to Increase as More Wireless Subscribers Cut the Cord,” In-Stat/MDR Market Alerts, February 25, 2004.

<sup>38</sup> Cable companies’ offer of local exchange services throughout a geographic area suggests that unbundled elements may no longer be essential facilities, i.e., retail competition can and is occurring without the necessity of competitors using unbundled elements.