PERSPECTIVES

PHOENIX CENTER FOR ADVANCED LEGAL & ECONOMIC PUBLIC POLICY STUDIES

The Impossible Dream: Forbearance After the Phoenix Order

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The Telecommunications Act of 1996 directed the Federal Communications Commission ("FCC") to adhere to a "pro-competitive, deregulatory national policy framework."[1] While the 1996 Act contained many regulatory mandates, it also included Section 10 of the statute, which directs the FCC to forbear from applying regulations or provisions of the Communications Act when specified conditions are satisfied.[2] Since the passage of the 1996 Act, a number of applications for forbearance have been submitted to the agency with mixed success.[3] The latest application, Qwest's forbearance request with respect to the Phoenix MSA, was denied by the FCC in June of 2010 (hereinafter the *Phoenix Order*).[4]

[T]he standard for forbearance set in the Phoenix Order effectively renders, perhaps inadvertently, Section 10 of the Act moot by establishing a forbearance threshold—price equals marginal cost—that is impossible to satisfy in most (if not all) communications markets.

The significance (to us) of the *Phoenix Order* is not that the Commission denied Qwest's petition, but that the agency fundamentally departed from past precedent and evaluated Qwest's forbearance request using a *new* "market power" analysis, stating: "Forbearance [is] based on whether the provider no longer has market power."[5] This "market power" analysis is purportedly here to stay, as the FCC signaled in the *Phoenix Order*, and in a subsequent *Public Notice*, its intent to apply its creation to future forbearance requests (and, we suspect, to other issues as well).[6]

In this PERSPECTIVE, we provide some initial comments on the agency's new "market power" analysis. As we explain in detail below, the standard for forbearance set in the *Phoenix Order* effectively renders, perhaps inadvertently, Section 10 of the Act moot by establishing a forbearance threshold—price equals marginal cost—that is *impossible* to satisfy in most (if not all) communications markets. In fact, the pricing standard set forth in the *Phoenix Order* implies that even Total Element Long-Run Incremental Costs ("TELRIC"), the long-fought pricing standard for unbundled network elements, is "unjust and unreasonable."[7] While the agency's formulation of the standard is plain enough, we suspect these implications of its new "market power" standard are largely unintended. Whether intentional or otherwise, it is certain that the forbearance analysis of the *Phoenix Order* will require significant modification in the future to be useful. Establishing a forbearance threshold that is

impossible to realistically satisfy necessarily fails to foster a "pro-competitive, deregulatory national policy framework" and guarantees the perpetuation of outdated and unnecessary regulations prone to reduce economic efficiency, curb investment, and impede innovation in the communications industry.

Significantly, our analysis of the *Phoenix Order* is limited to its new "market power" analysis and directed solely at methodology. We pass no judgment on the merits as to whether the Commission should have granted Qwest's petition (or any other petition) for forbearance. Our interests here are solely on the logical validity of the chosen framework for evaluating forbearance petitions. On that issue, we believe the presented "market power" standard is woefully inadequate for the analysis of forbearance and incompatible with the plain terms of the statute. Importantly, our limited focus on the "market power" standard does not imply a tacit acceptance of the remainder of the analysis in the *Phoenix Order*.

Marginal Cost Pricing and the Forbearance Standard

When the FCC grants or denies a forbearance petition, the agency must apply some type of framework to evaluate the evidence presented in the record. In the *Phoenix Order*, the FCC proposes a "market power" framework for the review of forbearance petitions, where the justification of forbearance turns on the presence or absence of market power. The *Order* says that "Forbearance [is] based on whether the provider no longer has market power" and "conditions might justify forbearance [] if the petitioner could demonstrate that it lacks market power."[8]

Given that the Commission's stated focus is on the presence (or lack thereof) of "market power," it seems reasonable to begin our review with how the agency now defines "market power." Market power is defined in the *Phoenix Order* as "the power to control price … resulting in prices above competitive levels."[9] The market power standard, consequently, hinges exclusively on the definition of "competitive levels" of price, so that a petition is granted only when there is sufficient competition to "justify forbearance."[10]

Establishing a forbearance threshold that is impossible to realistically satisfy fails necessarily to foster a "pro-competitive, deregulatory national policy framework" and guarantees the perpetuation of outdated and unnecessary regulations prone to reduce economic efficiency, curb investment, and impede innovation in the communications industry.

A thorough reading of the *Order* indicates that the Commission now defines the "competitive level" of pricing, at least in the context of forbearance, as the pricing outcome of Bertrand Competition "under the assumption of perfectly homogeneous products and no capacity constraints even in the short run."[11] As any Industrial Economics textbook will advise, Bertrand Competition under these assumptions has firms cutting price until the price just equals short-run marginal cost.[12] Bertrand Competition, therefore, renders the perfectly competitive outcome with only two firms, a result so odd that it is sometimes termed the "Bertrand Paradox."[13] Accordingly, the "competitive level" of price is defined by the FCC in the *Phoenix Order* to be short-run marginal cost pricing (or, $P = MC$).[14] A price above the competitive level does not justify forbearance because, in the Commission's view, does not "demonstrate that there is sufficient competition to ensure that [a firm] will be

unable to raise prices, discriminate unreasonably, or harm consumers."[15]

A student of telecommunications economics, and even telecommunications law, will immediately sense a problem with this standard. The production of telecommunications services requires large (and often sunk) capital expenditures, and these fixed costs render declining average costs (i.e., scale economies), or what is often called "increasing returns" (which is acknowledged in the *Phoenix Order*).[16] With increasing returns, average cost, and possibly marginal cost, is falling as output expands.[17] As a result, average cost exceeds marginal costs so that a price equal to short-run marginal cost fails to generate sufficient revenue to cover total cost, so the firm faces financial losses.[18] This fact is well established in literature of telecommunications regulation. In the TELECOMMUNICATIONS REGULATION HANDBOOK, for example, a discussion of costs and pricing notes that:

> … marginal cost is below average costs, and setting a regulated price equal to marginal cost will not allow the operator to recoup all of its costs. In order for the operator not to lose money and go out of business, the regulator had to set at least some prices above marginal cost.[19]

Economists Roger Blair and Christine Piette, in ANTITRUST BULLETIN, state it similarly:

> The production of local telephone service is marked by substantial economies of scale, which means that average cost declines with increases in output and marginal costs are below average cost. As a result, textbook competition, which involves marginal cost pricing, is infeasible as all firms would have negative profits.[20]

Clement Krouse, in the THEORY OF INDUSTRIAL ECONOMICS, provides a very clear statement of the issue:

> In a homogeneous goods industry the presence of increasing returns in production creates difficulties in using perfect competition as a benchmark for social efficiency. Prices set equal to marginal cost in this case will lead to losses (in the absence of lump-sum subsidies and/or some form of price discrimination).[21]

Likewise, Mitchell and Vogelsang, in their classic text TELECOMMUNICATIONS PRICING: THEORY AND PRACTICE, describe the problem as follows:

> Marginal cost prices rarely cover the total cost of service, perhaps due to long run excess capacity or due to economies of scale and scope. *** Losses arising from marginal-cost pricing have to be covered from some other source. If this is done internally by the firm it requires some other source of finance, presumably through some deviation from marginal-cost pricing for a different service. Alternatively, if the firm is externally subsidized, taxes have to be raised or other government expenditure will have to be forgone. [The] consequences of outside subsidies are some distortions or redistributions elsewhere in the economy, reflected in the government shadow multiplier λ_g. If such distortions for subsidies are deemed acceptable outside the firm they should also be acceptable for the firm's pricing, thus leading to deviations from marginal cost pricing.[22]

The discussion by economist Jean Tirole, in his seminal text THE THEORY OF INDUSTRIAL ORGANIZATION, is also highly unfavorable to the Commission's "market power" standard, observing about Bertrand Duopoly:

> Unfortunately, both firms charging the competitive prices, [price equals marginal cost], is generally not an equilibrium.[23]

Thus, what the FCC has defined to be the outcome of a competitive process is "not an equilibrium" at all and, thus, is not consistent with rational behavior by firms.

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There are many more discussions in the economics, legal, and regulatory literature expressing the same sentiment. The general thrust of this literature is that while marginal cost pricing may be "theoretically" ideal in that it maximizes welfare in a static sense, the reality is that marginal cost pricing with decreasing cost requires a subsidy, and thus taxes, to offset the losses of the firm.[24]

The Commission is not always blind to these fundamental economic facts of telecommunications markets. There are many instances where the agency devises policy in full recognition of the prevalence of fixed and sunk costs and their implications for pricing.[25] For example, when the agency set a price for certain types of payphone calls, it concluded:

> Because payphones have significant fixed costs that must be recovered, the price for each type of payphone call must exceed the marginal cost of the call if the payphone is to earn a normal rate of return. Stated another way, if every call is priced at the marginal cost of that call, the payphone would be unprofitable, because it would fail to recover the predominant fixed costs of providing the payphone.[26]

Likewise, former Chairman Reed Hundt, in an article published in the FEDERAL COMMUNICATIONS LAW JOURNAL, states:

> In an industry with large sunk costs and small marginal costs, like most of the telecommunications industry, pricing that goes to marginal cost will not provide an adequate return to the investors who provide capital. Investors will be cautious about investing money upfront because *ex post* competition could drive prices to nonremunerative levels.[27]

Plainly, as noted in the quotes above, the literature generally, and in other FCC decisions and statements, by setting marginal cost pricing as the litmus test for "sufficient competition," the FCC essentially prohibits firms from recovering all of their costs, establishing a forbearance threshold that is entirely inappropriate for the telecommunications industry. Viewed in the context of the traditional "just and reasonable" ratemaking standard found in Section 201, the FCC has clearly set a *de facto* benchmark rate which is "confiscatory" and outside of the "zone of reasonableness,"[28] since marginal cost pricing does not permit the recovery of all costs.

As detailed in most research on pricing in markets such as telecommunications, the theoretically "best" (uniform) price is average cost pricing (in a single product context), which implies a deviation over marginal cost sufficient to cover fixed costs (so the firm earns zero-economic profit). For the multi-product firm, the socially ideal prices (in a second-best sense) are referred to as Ramsey Prices, where each price deviates from marginal cost in proportion to the own-price elasticity of demand for the good.[29] The theory indicates that socially optimal prices may deviate substantially from marginal cost.

Are We Overstating the Case?

We suspect that the reader at this point will conclude that we are overstating the case. Would the FCC, as the expert agency, establish a standard of market power so clearly out of sync

with the industries it regulates? The answer is surprisingly "Yes," and the "proof" is rather straightforward.

In the *Phoenix Order*, the FCC explicitly states the "competitive level" of price (relevant to forbearance analysis) is that equivalent to the price set "under the Bertrand model [with] the assumption of perfectly homogeneous products and no capacity constraints even in the short run."[30] The outcome of this model is price equals marginal cost ($P = MC$). Qwest's Phoenix petition was rejected because the agency "[had] no evidence in the record … suggesting that these conditions are present in the markets at issue."[31] Unfortunately, *such evidence will never be present*, since marginal cost pricing is not feasible in almost all telecommunications markets given the prevalence of fixed and sunk costs.

The natural response of an economist is to admit that Bertrand competition of this sort does render a perfectly competitive equilibrium, but the economist would also note that these quotes from the *Phoenix Order* do not necessarily preclude the acceptance of other competitive outcomes, perhaps less extreme than the simple Bertrand model. Put more technically, the simple Bertrand equilibrium may be a *sufficient condition* for forbearance, but the *necessary condition* for forbearance may be something less extreme.

While clever, this line of reasoning is explicitly rejected in the *Phoenix Order*. The cleanest demonstration comes from the following statement:

> [if] firms have some degree of product differentiation … then theories of oligopoly behavior predict that equilibrium prices *will exceed competitive levels*.[32]

In the Bertrand Model, product differentiation softens price competition, since some consumers do not view the rivals' goods as perfect substitutes. The range of prices possible in a product differentiated Bertrand Model are easily established as follows:

At one extreme, assume product differentiation is sufficiently great so that consumers do not view the rivals' goods as substitutes. In this case, the Bertrand firms do not compete at all; they are essentially monopolists. The resulting equilibrium price is the monopoly price for each firm.[33]

At the other extreme, assume the rivals' goods are not differentiated at all so that consumers are indifferent between them. In this case, the product differentiation model devolves into the simple Bertrand model with homogeneous products and the equilibrium price equals marginal cost.

Thus, the Bertrand Model with "some degree of product differentiation" can, depending on the degree of differentiation, have a price that covers the entire range of prices from a low of marginal cost to a high of monopoly price, and all prices in between. It directly follows that the Commission has defined all prices other than price equals marginal cost as above the competitive level—"[if] firms have some degree of product differentiation … then … equilibrium prices *will exceed competitive levels*."[34] A straightforward reading of the *Phoenix Order* forces the conclusion that marginal cost pricing is the only price that can equal the competitive level, and thus the only price that can justify forbearance.

More evidence comes from the Commission's rejection as "just and reasonable" those prices arising from a "Cournot Model *under any assumptions*."[35] As with product differentiated Bertrand competition, the Cournot Model has potential equilibrium prices that cover the full range of prices from (slightly above) marginal cost (e.g., many firms) to monopoly. We are forced to conclude that the *Phoenix Order* would not grant a forbearance petition even if the

regulated firm had to compete with hundreds of rivals, since, by the FCC's own hand, "equilibrium prices … in the Cournot Model under any assumptions … will exceed the competitive level."[36]

Another possible reading of the *Phoenix Order* is that the discussion on Bertrand and Cournot competition relates only to the dismissal of duopoly as sufficient to warrant forbearance. However, the text of the *Order* clearly refers to "few firms" and "oligopoly," not simply duopoly, so this alleged limitation of the dicta to duopoly is invalid.[37] Furthermore, the agency describes the competitive level of price as the outcome of a simple Bertrand Model in many sections of the *Order*, not simply the one dealing with duopoly.[38] Perhaps most relevant to a logical argument, however, is that this "duopoly only" argument implies marginal cost pricing is required for duopoly but a cartel outcome for three firms would justify forbearance. We find this implication of the "duopoly only" sufficiently perverse to reject this limited interpretation of the *Phoenix Order* (though we recognize we are simultaneously assigning a logical flow to an *Order* for which we argue lacks a logical flow).

TELRIC Pricing is Unjust and Unreasonable

Under the *Phoenix Order*'s standard for "just and reasonable" prices, the pricing standard the FCC spent years in litigation to uphold—i.e., the use of Total Element Long Run Incremental or "TELRIC" pricing for unbundled network elements[39]—fails the "just and reasonable" standard because it would produce an "excessive" or "creamy" return by permitting the firm to recover all costs.[40] TELRIC pricing permits the recovery of all costs, including a return on capital investments, for the total element (not a one-unit change as marginal cost requires), and on top of that is an allocation of joint and common costs. TELRIC is based on the total costs of the "total element" plus some, so it more akin to an average cost standard with the assignment of some common costs. Plainly, TELRIC exceeds marginal cost.[41]

Under the Phoenix Order's standard for "just and reasonable" prices, [TELRIC] fails the "just and reasonable" standard because it would produce an "excessive" or "creamy" return by permitting the firm to recover all costs.

TELRIC pricing, by the *Phoenix Order*'s standard, is now "unjust and unreasonable," since a TELRIC-based price will exceed marginal cost. By maintaining the unbundling regime in the Phoenix MSA, the *Phoenix Order* explicitly protects and prolongs a regulatory regime—the wholesale provision of UNEs at TELRIC—that fails to satisfy its own standard of acceptable outcomes. We suspect that this result was not what the Commission had in mind, but that is what its *Order* nevertheless implies.

Confusion on Collusion

An interesting contrast in agency viewpoints on the nature of competition and collusion in telecommunications markets is provided by comparing the *Phoenix Order* to the FCC's recent *National Broadband Plan*. In the *Phoenix Order*, the agency concludes that,

> [E]conomic theory holds that firms operating in a market with two or a few firms (i.e., an oligopoly) are likely to recognize their mutual interdependence and … in many cases may engage in strategic behavior, resulting in prices above competitive levels.[42]

Furthermore, the *Order* claims,

> … when there are only a few firms in a market, they are more likely to engage in coordinated interaction include[ing] tacit as well as explicit collusion, and can result in supracompetitive pricing.[43]

These statements in the *Phoenix Order* stand in stark contrast to the dicta in the *National Broadband Plan*. There, the Commission recognized that few firms is a natural and expected outcome in communications markets, stating

> building broadband networks—especially wireline—requires large fixed and sunk investments. Consequently, the industry will probably always have a relatively small number of facilities-based competitors, at least for wireline service.[44]

However, the Commission goes on to recognize, in direct conflict with the *Phoenix Order*, that the

> lack of a large number of wireline, facilities-based providers does not necessarily mean competition among broadband providers is inadequate.[45]

Moreover, the *National Broadband Plan* states,

> while older economic models of competition emphasized the danger of tacit collusion with a small number of rivals, economists today recognize that coordination is possible but not inevitable under such circumstances.[46]

The contrast is apparent. In the *Phoenix Order*, the Commission concludes that few firms are "more likely to engage in coordinated interaction include[ing] tacit as well as explicit collusion," while the *National Broadband Plan* describes such thinking as "old" and observes that "economists today recognize that coordination is possible but not inevitable." Moreover, in the *Plan*, the Commission presents significant evidence to demonstrate that broadband providers invest heavily in network upgrades where they face existing levels of facilities-based competition, and consumers are benefiting from these investments in the form of increased speed and lower prices.[47] The *Phoenix Order* does not rebut these findings.

The marked contrast between the *Phoenix Order* and the *National Broadband Plan* is difficult to ignore, especially since the two documents were released by the Commission within a 100 day window. It seems clear that the FCC needs to establish some agency-wide economic frameworks for competition analysis and exercise more care in coordinating its decisions.

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What Would be a Better Standard of Analysis?

At minimum, the preceding discussion demonstrates that a naïve, textbook market power analysis is ill-suited to answer the question of how, if at all, the Commission should regulate the telecommunications industry. In fact, if the conditions giving relevance to such naïve expectations actually existed in telecommunications markets,[48] then there would be no need for the FCC or its regulations in the first place.

While the development of a new comprehensive paradigm is beyond the scope of this narrow PERSPECTIVE, we can at least make a few important observations to get the discussion started.

First, while the Commission in the *Phoenix Order* correctly noted that the agency had used a dominant/non-dominant market power analysis in its *Competitive Carrier* paradigm, it must be understood that the use of this analysis was a product of its pre-1996 Act times which did not even contemplate the possibility of lawful forbearance.[49] Similarly, like all disciplines, economic science has evolved since the early 1980's when *Competitive Carrier* was first promulgated.[50]

The hypothetical experiment relevant to Section 10 forbearance is not the presence or absence of market power, but the presence or absence of regulation.

More importantly, while *Competitive Carrier* placed the burden on the regulated entity to demonstrate that it lacked market power, Congress took the opposite approach in the 1996 Act by forcing the agency to bear the burden to show that the cost of regulation does not outweigh the benefits. As Section 10(b) of the Act clearly states:

> In making the determination [that forbearance is in the public interest], the Commission shall consider whether forbearance from enforcing the provision or regulation will promote competitive market conditions, including the extent to which such forbearance will promote competition among providers of telecommunications services. If the Commission determines that such forbearance will promote competition among providers of telecommunications services, that determination may be the basis for a Commission finding that forbearance is in the public interest.[51]

Most markets, and certainly most if not all communications markets, are unlikely to ever resemble anything like the equilibrium of the textbook nirvana of perfect competition, but, as Congress observed in the statute, this fact does not imply regulation is desirable. Regulation can be harmful even in the presence of monopoly, especially if the regulation has the effect of deterring competitive entry (e.g., cable franchising). The "market power" framework of the *Phoenix Order* does not permit forbearance in the presence of market power and is, consequently, inconsistent with the plain language of the statute. The hypothetical experiment relevant to Section 10 forbearance is *not* the presence or absence of market power, but the presence or absence of regulation.

Second, regulation is not costless. In its *Phoenix Order*, the Commission is guilty of the "nirvana fallacy" in that the grass is not always greener under regulatory mandate. As explained by economist Harold Demsetz,

> Whether the free enterprise solution can be improved upon by the substitution of government [] cannot be ascertained solely by examining the free enterprise solution. The political [] forces that are substituted for free enterprise must be analyzed and the outcome of the workings of these forces must be compared to the market solution before any such conclusions can be drawn.[52]

It is well-established by both the FCC and the courts that price regulation is far from an "exact science."[53] Indeed, not only is the rate-setting process itself complicated,[54] but the regulators' deliberation is complicated by interested parties who inevitably seek to use the regulatory process to effectuate a transfer of wealth from one industry segment to another.[55] Regulation, then, is imperfect, just as markets are sometimes imperfect. The relevant question, therefore, is which maximizes social welfare—unregulated or regulated markets?[56] For this reason, before

any regulation is imposed—price or otherwise—policymakers must always engage in a careful cost/benefit analysis whether market power exists or not, especially when the governing statutes require it to do so.[57]

Third, unlike the *Phoenix Order* but as the Commission recognized in the *National Broadband Plan* (and, to be fair, as the Commission also has recognized from time to time over the years[58]), the agency must move away from naïve headcounts as measures of industry performance.[59] Like it or not, given the large fixed and sunk costs associated with building and operating broadband networks (wired and wireless), "fewness" will be the rule, *but such fewness is not per se evidence of poor market performance*.[60]

Fortunately, while perhaps not directly on point, we do have one significant piece of anecdotal statutory evidence that can provide some guidance to illustrate the preceding points: Section 623(l) of the Communications Act holds that price regulation is no longer warranted in the presence of "effective competition." According to the statute, "effective competition" exists when a market is "served by at least two unaffiliated multichannel video programming distributors each of which offers comparable video programming to at least 50 percent of the households in the franchise area [and] the number of households subscribing to programming services offered by multichannel video programming distributors other than the largest multichannel video programming distributor exceeds 15 percent of the households in the franchise area."[61]

In contrast to the evident rejection of duopoly in the *Phoenix Order*, Congress concluded that, at least for the MVPD market, the deregulation of end-user prices does not result in unjust and unreasonable prices in markets where a single entrant passes only half the market of the incumbent provider (essentially, 1.5 firms versus 2 in duopoly). The threshold HHI for reaching a conclusion of "effective competition" is 7,450.[62] Thus, it is clear that Congress believed that, at least in this instance, even small-numbers competition is better than mountains of price regulation. Or, put another way, Congress expressed *low confidence* in the effectiveness of regulation, and *high confidence* in the cost of regulation, even when markets are highly concentrated by standard measures.

Conclusion

In this PERSPECTIVE, we have pointed out a serious defect in the FCC's "market power" analysis contained in its *Phoenix Order*. In that *Order* the FCC establishes a standard of performance—price equal marginal cost—that is impossible to satisfy in the markets it regulates. Thus, the "market power" analysis of the *Phoenix Order* makes Section 10 moot—no telecommunications firm will ever be able to satisfy the "sufficient competition" standard required to "justify forbearance," since such outcomes are usually unsustainable in markets with significant fixed costs and scale economies. To file a forbearance request under such a standard is a waste of time, perhaps explaining why all forbearance petitions have been withdrawn since the release of the *Phoenix Order*.

We suspect, and indeed hope, that the Commission did not intend to reach such a conclusion, but the *Phoenix Order*'s "market power" analysis permits no other interpretation. Clearly, modification to the forbearance framework is needed. In future forbearance proceedings, we encourage the Commission to focus on relative economic welfare with and without regulation, rather than with and without market power. The former approach is more economically sound and is more consistent with the statute.

A more carefully-considered and economically-sound forbearance framework is important for public policy in communications markets. Communications markets are often very

dynamic so that regulatory rules may tire quickly. Establishing a forbearance threshold that is impossible to satisfy fails to foster a "pro-competitive, deregulatory national policy framework" as required by statute, and guarantees the perpetuation of outdated and unnecessary regulations that reduce economic efficiency, curb investment, and impede innovation in the communications industry.

NOTES:

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1 Joint Explanatory Statement of the Committee of Conference, S. Rep. No. 104-230, at 113 (1996) (Conf. Rep.) (Joint Explanatory Statement).

2 47 U.S.C. § 160.

3 *In the Matter of Petition to Establish Procedural Requirements to Govern Proceedings for Forbearance Under Section 10 of the Communications Act of 1934, as Amended,* FCC 09-56, REPORT AND ORDER, ___ FCC Rcd __ (2009).

4 *In the Matter of Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area,* FC 10-113, MEMORANDUM OPINION AND ORDER, ___ FCC Rcd __ (rel. June 22, 2010) (hereinafter the *Phoenix Order*).

5 *Phoenix Order*, *supra* n. 4, at ¶ 38.

6 *Phoenix Order*, ¶ 1. Public Notice, Wireline Competition Bureau Seeks Comment on Applying the Qwest Phoenix Forbearance Order Analytic Framework in Similar Proceedings, DA 10-1115, WC Docket Nos. 06-172, 07-97 (June 22, 2010) (available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-10-1115A1_Rcd.pdf).

7 *See Verizon v. FCC*, 535 U.S. 467 (2002).

8 *Phoenix Order*, *supra* n. 4, at ¶ 38, ¶ 94.

9 *Phoenix Order*, *supra* n. 4 at ¶¶ 5, 28, 30, 82.

10 *Id.* at ¶ 24. The point is made again at ¶ 43 ("The forbearance criteria could not be met, however, if Qwest … could profitably sustain supracompetitive prices").

11 *Id.* at ¶ 86 and n. 91. Bertrand Competition means firms compete by cutting price; Cournot Competition, in contrast, has firms competing by changing quantities. With homogeneous goods, the outcomes of the two strategies are very different. Bertrand with a capacity constraint renders the Cournot outcomes. *See* D. Kreps & J. Scheinkman, *Quantity Precommitment and Bertrand Competition Yield Cournot Outcome,* 14 BELL JOURNAL OF ECONOMICS 326-337 (1983).

12 D. Carlton and J. Perloff, MODERN INDUSTRIAL ORGANIZATION (2005) at p. 173 ("The only possible Bertrand equilibrium … is $p = MC$"). The focus of the analysis is obviously on short-run pricing. The long run in economics is a fiction. Any observed, real-world outcome, such as the present state of competition and regulation, is a short-run phenomenon. It is the actual state of competition, and possibly the actual threat of competition, that is relevant for forbearance analysis.

13 *See, e.g.,* J. Tirole, THE THEORY OF INDUSTRIAL ORGANIZATION (1988) at p. 211.

14 The FCC defines the "competitive outcome" as the equilibrium of Bertrand Duopoly, which is marginal cost pricing. *See Phoenix Order*, *supra* n. 14 ¶ 30 and n. 91. *See also id.* at ¶ 86 ("In particular, under the Bertrand model, duopoly can result in a competitive equilibrium under the assumption of perfectly homogeneous products and no capacity constraints even in the short run. We have no evidence in the record here, however, suggesting that these conditions are present in the markets at issue.").

15 *Id.* at ¶ 2.

16 *Id.* ("the Commission focused on those operational and economic barriers to entry that are linked to natural monopoly characteristics, in particular: "(1) economies of scale (2) sunk costs (¶ 11)"; "The record evidence indicates that Qwest's competitors, absent leasing facilities from Qwest, would be unable to provide a timely supply response and that this response would likely require investment in significant sunk costs (ft. 143)"). In many other documents the FCC explicitly acknowledges the supply-side conditions of the telecommunications market. *See, e.g.,* CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN, Federal Communications Commission (March 16, 2010) (available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf) (hereinafter the *National Broadband Plan*) at pp.

NOTES CONTINUED:

36-7; *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers,* FCC 03-36, REPORT AND ORDER AND ORDER ON REMAND AND FURTHER NOTICE OF PROPOSED RULEMAKING, ___ FCC Rcd ___ (rel. August 21, 2003) at ¶¶ 84-88.

17 *See, e.g.,* T. Beard, G. Ford and L. Spiwak, *Why ADCo? Why Now? An Economic Exploration into the Future Industry Structure for the "Last Mile" in Local Telecommunications Markets*, PHOENIX CENTER POLICY PAPER NO. 12 (November 2001), *and reprinted in* 54 FED. COM. L. J. 421 (May 2002) (http://www.law.indiana.edu/fclj/pubs/v54/no3/spiwak.pdf).

18 Even permitting more complex strategies than that assumed in the most simple form of Bertrand Competition, Chauduri (1996) shows the solution to Bertrand Competition with decreasing costs results in a *single* firm supplying the entire market at a price equal to average cost (thus earning zero profits). P. Chaudhuri, *The Contestable Outcome as a Bertrand Equilibrium*, 50 ECONOMICS LETTERS 237-242 (1996). With decreasing returns (or increasing costs), it is possible for marginal cost to equal average total cost. However, increasing returns is the benchmark expectations for telecommunications markets.

19 H. Intven and M. Tetrault, TELECOMMUNICATIONS REGULATION HANDBOOK (2000) at p. B-17.

20 R. Blair and C. Piette, *The Interface of Antitrust and Regulation: Trinko*, 50 ANTITRUST BULLETIN 665-685 (2005).

21 C. Krouse, THEORY OF INDUSTRIAL ECONOMICS (1990), p. 55. *See also* H. Intven and M. Tetrault, *supra* n. 19 at p. B-17 ("marginal cost is below average costs, and setting a regulated price equal to marginal cost will not allow the operator to recoup all of its costs. In order for the operator not to lose money and go out of business, the regulator had to set at least some prices above marginal cost"

22 B. Mitchell and I. Vogelsang, TELECOMMUNICATIONS PRICING: THEORY AND PRACTICE (1991) at pp. 38-9.

23 J. Tirole, THE THEORY OF INDUSTRIAL ORGANIZATION (1995) at p. 214.

24 From a purely textbook perspective, the marginal cost standard has some support. For example, Professors Carlton and Perloff, in their widely-read book MODERN INDUSTRIAL ORGANIZATION, define market power as follows: "A firm (or group of firms acting together) has market power if it is profitably able to charge a price above that which would prevail under competition, which is usually taken to be marginal cost. This ability to set price above marginal cost implicitly uses the model of perfect competition as a benchmark against which to measure the behavior of firms." While this statement is consistent with the view presented in the *Phoenix Order*, Professors Carlton and Perloff continue, "If this definition is applied literally, probably every firm in the United States has … market power. The model of perfect competition is an extreme one that describes few, if any, actual industries." Carlton and Perloff, *supra* n. 12, at p. 642. Among all industries, the telecommunications industry is one of the most capital intensive, with very high fixed and sunk costs and near zero marginal cost for many services. Certainly, a price equal to short-run marginal cost is not an appropriate standard for evaluating market performance in telecommunications.

25 *See, e.g., National Broadband Plan* at 47 ("economies of scale, scope and density that characterize telecommunications networks"); *In the Matter of Implementation of Section 19 of the Cable Television Consumer Protection and Competition Act of 1992, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming,* FIRST REPORT, FCC 94-235, ___ FCC Rcd __ (rel. September 28, 1994), Appendix H at ¶¶ 377-383 (discussing how the presence of high sunk costs may have a decisive effect on the evolution of local market structure and the possible trade-offs between the number of actual competitors in any local cable market and the intensity of price competition that might prevail); *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers,* FCC 03-36, REPORT AND ORDER AND ORDER ON REMAND AND FURTHER NOTICE OF PROPOSED RULEMAKING, ___ FCC Rcd ___ (rel. August 21, 2003) at n. 244; *In the Matter of Special Access Rates for Price Cap Local Exchange Carriers,* FCC 05-18, ORDER AND NOTICE OF PROPOSED RULEMAKING, ___ FCC Rcd ___ (January 31, 2005) at n. 187; *In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services,* FOURTEENTH REPORT, FCC 10-81, __ FCC Rcd __ (rel. May 20, 2010)(hereinafter "*Fourteenth CMRS Report*") *passim*.

26 *In Re Implementation of the Pay Telephone Reclassification and Compensation Provisions of the Telecommunications Act of 1996,* THIRD REPORT AND ORDER, AND ORDER ON RECONSIDERATION OF THE SECOND REPORT AND ORDER, FCC 99-7, 14 FCC Rcd. 2545 (1999) at ¶ 32.

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[27] R. Hundt and G. Rosston, *Communications Policy for 2006 and Beyond*, 58 FEDERAL COMMUNICATIONS LAW JOURNAL 1, 6 (2006).

[28] *See, e.g., Verizon*, 535 U.S. at 481 (and citations therein); *Farmers Union Central Exchange v. FERC*, 734 F.2d 1486, 1502 (D.C. Cir.), *cert. denied,* 469 U.S. 1034 (1984).

[29] Mitchell and Vogelsang, *supra* n. 22, at Ch. 3; *see also* T. Beard, G. Ford, and L. Spiwak, *The Pricing of Pole Attachments: Implications and Recommendations*, 9 REVIEW OF NETWORK ECONOMICS 3 (2010).

[30] *Phoenix Order*, *supra* n. 4, ¶86.

[31] *Id*.

[32] *Id.* at n. 89 (emphasis supplied).

[33] *See*, *e.g.,* Tirole, *supra* n. 23, at 212.

[34] *Id*.

[35] *Phoenix Order, supra* n. 4, at n. 89.

[36] *Id*.

[37] *Id.* at ¶¶ 29, 30.

[38] *Id*. at ¶ 86.

[39] *Verizon v. FCC, supra* n. 7.

[40] *Farmers Union, supra* n. 28.

[41] The *Phoenix Order* concerns short-run pricing, whereas TELRIC is a long-run cost standard. Under some set of assumption, we suppose, TELRIC may be below short-run marginal cost. However, TELRIC expressly includes elements of costs that are not marginal, for a identically defined time, TELRIC exceeds marginal cost.

[42] *Phoenix Order, supra* n. 4 at ¶ 30, n. 89.

[43] *Id*. at ¶ 30.

[44] *National Broadband Plan, supra* n. 16 at p. 38-39.

[45] *Id.* at p. 38-39.

[46] *Id.* at p. 38-39.

[47] *Id.* at 40-41.

[48] That is, a large number of sellers free to enter and exit at will, offering exactly the same good, and facing decreasing returns to scale, offer their wares to a large number of perfectly informed consumers in a centralized market with zero transactions costs and no externalities, and a few other strong and unrealistic assumptions.

[49] *See MCI Telecommunications v. AT&T,* 512 U.S. 218 (1994).

[50] *See, e.g.,* J. Sutton, SUNK COSTS AND MARKET STRUCTURE (1991); *see also supra* n. 25 where the Commission has cited to the Sutton approach.

[51] 47 U.S.C. § 160(c). And, just to emphasize the point, Congress also imposed a one-year shot clock for the Commission to act, otherwise any forbearance petition is "deemed granted." *Id.*

[52] *See* H. Demsetz, *Information and Efficiency: Another Viewpoint*, 12 JOURNAL OF LAW AND ECONOMICS 1 (1969) at p. 2 ("The view that now pervades much public policy economics implicitly presents the relevant choice as between an ideal norm and an existing 'imperfect' institutional arrangement. This nirvana approach differs considerably from a comparative institution approach in which the relevant choice is between alternative real institutional arrangements. In practice, those who adopt

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the nirvana viewpoint seek to discover discrepancies between the ideal and the real and if discrepancies are found, they deduce that the real is inefficient. Users of the comparative institution approach attempt to assess which alternative real institutional arrangement seems best able to cope with the economic problem; practitioners of this approach may use an ideal norm to provide standards from which divergences are assessed for all practical alternatives of interest and select as efficient that alternative which seems to most likely to minimize the divergence. The nirvana approach is much more susceptible than is the comparative institutional approach to committing three logical fallacies – *the grass is always greener fallacy, the fallacy of the free lunch, and the people could be different fallacy*").

[53] *See, e.g., Federal Power Commission, v. Conway Corporation et al.*, 426 U.S. 271, 278 (1976); *WorldCom, Inc. v. FCC,* 238 F.3d 449, 457 (2001); *Southwestern Bell Telephone Co. v. FCC*, 168 F.3d 1344, 1352 (D.C. Cir. 1999); *Time Warner Entertainment Co. v. FCC,* 56 F.3d 151, 163 (D.C. Cir.1995); *United States v. FCC,* 707 F.2d 610, 618 (D.C. Cir. 1983); *see also Access Charge Reform,* Fifth Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 14221 (1999) at ¶¶ 96, 144, *aff'd sub nom. WorldCom v. FCC,* 238 F.3d 449 (D.C. Cir. 2001)(justifying its triggers by noting that "regulation is not an exact science").

[54] *See, e.g.,* ICT REGULATORY TOOLKIT, ITU, at §5.1 (available at: http://www.ictregulationtoolkit.org/en/Section.2150.html), where the ITU observed that that regulation has "potentially high costs":

> Among other things, it substitutes the regulator's judgment for market interactions. No matter how capable and well intentioned regulators are, they will never be able to produce outcomes as efficient as a well-functioning market. Regulators should therefore forebear from interfering in pricing decisions unless regulation is justified. That is, *unless the expected benefits from regulating prices outweigh the expected costs from doing so.*

(Emphasis supplied.)

[55] *See* C. Sunstein, THE COST-BENEFIT STATE: THE FUTURE OF REGULATORY PROTECTION (2002) at 9 ("the strongest argument for cost-benefit balancing are based not only on neoclassical economics, but also on an understanding of human cognition, on democratic considerations, and on an assessment of the real-world record of such balancing," noting that cost-benefit analysis "can protect democratic processes" from interest groups that are "pressing for regulation when the argument on its behalf is fragile.").

[56] T. Beard, G. Ford and L. Spiwak, *Market Definition and the Economic Effects of Special Access Price Regulation*, PHOENIX CENTER POLICY PAPER NO. 37 (October 2009) (available at: http://www.phoenix-center.org/pcpp/PCPP37Final.pdf).

[57] Sunstein, *supra* n. 55.

[58] *See supra* n. 25.

[59] G. Ford and L. Spiwak, *The Need for Better Analysis of High Capacity Services*, PHOENIX CENTER POLICY PAPER NO. 35 (June 2009)(available at: http://www.phoenix-center.org/pcpp/PCPP35Final.pdf), *and to be reprinted in* JOHN MARSHALL JOURNAL OF COMPUTER AND INFORMATION LAW (forthcoming winter 2011).

[60] *See generally,* G. Ford, T. Koutsky and L. Spiwak, *Competition After Unbundling: Entry, Industry Structure and Convergence*, PHOENIX CENTER POLICY PAPER NO. 21 (Jul. 2005), *reprinted in* 59 FED. COMM. L.J. 331 (2007); *Fourteenth CMRS Report, supra* n. 25, at ¶ 61, n. 141, *citing* Written Statement of George S. Ford, Ph.D., Chief Economist, Phoenix Center for Advanced Legal & Economic Public Studies, Before the House of Representatives, Committee on Energy and Commerce, Subcommittee Telecommunications and the Internet, Hearing on "An Examination of Competition in the Wireless Industry," May 7, 2009, at 5, (estimating that three to five nationwide carriers will be able to provide mobile services, including mobile broadband).

[61] *See* Communications Act Section 623 (l)(B), 47 U.S.C. § 543(l)(B).

[62] Given the required minimum market share of the non-incumbent firm of 15%, the HHI is computed as: $15^2 + 85^2 = 7{,}450$.