AN ECONOMIC GUIDE TO COMPETITIVE STANDARDS IN TELECOMMUNICATIONS REGULATION

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The concept of 'workable' or 'effective' competition can perhaps best be described as the economists' attempt to identify the conditions which could provide appropriate leads for policy in assuring society the substance of the advantages which competition should provide. It is a kind of economist's 'Rule of Reason'—not, of course, to be confused with the legal rule of reason, but analogous to it in the sense that it is also an acknowledgement of the inevitability of the exercise of human judgment and discretion in classifying different forms of economic behavior.

—Henry Adler Einhorn and William Paul Smith

I. INTRODUCTION

A. Telecommunications Regulatory Reform Efforts

Several industries traditionally subject to economic regulation, such as transportation, electric utilities, and energy, are involved in a transition toward reduced regulation or deregulation. In the case of telecommunications, competitive pressures in the local exchange and access services markets, and public policy goals (e.g., network modernization, telecommunications infrastructure enhancement, efficient diffusion of advanced network technologies) have required policymakers at both the state and federal levels to reevaluate telecommunications regulation, with an eye toward supplanting it with competitive market forces where possible.

Further, it is generally true that starting in 1959 with the Federal Communications Commission’s (“FCC” or “Commission”) Above 890 decision, entry into telecommunications markets has in large part been deregulated, whereas pricing by large incumbent telephone companies has not, resulting in a system commonly known as asymmetric regulation. None of this has led to pervasive deregulation of the Regional Bell Operating Companies (“RBOCs”), AT&T, or large “Tier 1” local exchange carriers (“LECs”) such as GTE, though in the 1980s there were trends toward deregulating both the entry conditions and the pricing conditions for non-Bell com-

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3 In re Allocation of Frequencies in the Bands Above 890 Megacycles, Report and Order, 27 F.C.C. 359 (1959) [hereinafter Above 890](allocating radio spectrum in the frequency above 890 megacycles to private microwave users regardless of whether common carrier service was available to them); In re Microwave Communications, Inc., Initial Decision, 18 F.C.C.2d 799, 1010 (1969)(ruling by Hearing Examiner Herbert Sharfman)(granting a license to MCI enabling it to construct a microwave network between St. Louis and Chicago to provide private line services on a common carrier basis); In re Establishment of Policies and Procedures for Consideration of Applications to Provide Specialized Common Carrier Services, First Report and Order, 29 F.C.C.2d 870 (1971) (establishing an overall policy concerning new entry to the private line market by what were designated as “specialized common carriers,” and ruling that the local exchange carriers must, upon request, permit these carriers to interconnect with their facilities); MCI Telecommunications Corp. v. FCC, 561 F.2d 365 (D.C. Cir. 1977), cert. denied, 434 U.S. 1040 (1978)(ruling that MCI's Executive service, although substantially equivalent to AT&T's MTS and WATS service, was lawful); MCI Telecommunications Corp. v. FCC, 580 F.2d 590 (D.C. Cir. 1978), cert. denied, 439 U.S. 980


* James M. Fink, The Battle Over the Rewrite of Illinois' Telecommunications Law: Is More Reform Needed?, 15 PULA 527, 543 (July-Dec. 1992)("At least 16 states have statutes expressly authorizing their public service commissions to adopt alternative forms of regulation for noncompetitive services: Florida, Georgia, Hawaii, Idaho, Minnesota, Mississippi, Montana, Nebraska, Nevada, North Carolina, North Dakota, South Carolina, South Dakota, Utah, Vermont, and Washington."). See id. at 544. ("The public utility commissions from at least 16 other states have adopted alternative regulation plans for noncompetitive services based upon their existing general administrative authority conferred by statute: Alabama, California, Kansas, Kentucky, Louisiana, Maryland, Michigan, Missouri, New Mexico, New York, Rhode Island, Tennessee, Texas, Virginia, West Virginia, and Wisconsin.") Many other states have undertaken review or analysis of alternative forms of regulation since 1991.

See generally In re Amendment of Sections 64.702 of the Commission's Rules and Regulations, (Third Computer Inquiry), Phase I Report and Order, 104 F.C.C.2d 958 (1986)(replacing structural separation with nonstructural safeguards such as Comparably Efficient Interconnection in the short term and Open Network Architecture in the long run); see In re Separation of Costs of Regulated Telephone Service from Costs of Nonregulated Activities, Report and Order, 2 FCC Rcd. 1298 (1987)(requiring the Tier I local exchange carriers to develop Cost Allocation Manuals as a nonstructural safeguard in lieu of structural separation); In re Policy and Rules Concerning Rates for Dominant Carriers, Report and Order and Second Further Notice of Proposed Rule Making, 4 FCC Rcd. 2873 (1989)(supplanting rate of return regulation with price ceiling regulation for interstate long distance services provided by AT&T); id., Second Report and Order, 5 FCC Rcd. 6786 (1990)(supplanting...
latory process,⁷ and affording “dominant” carriers some measure of pricing flexibility.⁸ Further, at least seventeen states provide for the complete deregulation of competitive service revenues.⁹

An important underpinning of policies involving deregulation, lessened regulation or pricing flexibility for a telecommunications service is the issue of whether a particular service is subject to significant competition. If it is, then policies such as deregulation and open entry may be the best ones for policymakers to pursue. If a market is not sufficiently competitive, however, policies such as deregulation may be premature and run counter to the public interest. Thus, an important question to ask is: What indicators can policymakers use to determine if a market is sufficiently competitive to allow relaxed regulatory scrutiny of firms normally assumed “dominant” in the eyes of public utility law? Similarly, what indicators only appear to be helpful but are actually of limited usefulness? One must answer these questions to comply with various laws governing telecommunications regulation, and usually the answers are found in economic analysis. This Article will provide a guide to these answers, and a non-technical bridge to the economics literature for the attorney involved in competitive standards in telecommunications law.

B. For Sound Public Policy, What Is the Meaning of a “Competitive Market”?

In FCC notices of proposed rulemaking (“NPRM”) and orders, state public utility commis-

rate of return regulation with price ceiling regulation for inter-
state access services provided by the local exchange carriers); In re Southwestern Bell Telephone Company’s Proposal for Network Modernization, Rate Stability and Pricing Regulation a/k/a “TELEKANSAS,” Docket No. 166,856-U, Order (Feb. 2, 1990)(supplanting rate of return regulation with indexed price cap regulation in Kansas).

⁷ In re Competition in the Interstate Interexchange Market-
place, Report and Order, 6 FCC Rcd. 5880 (1991); In re De-
creased Regulation of Certain Basic Telecommunications Ser-

⁸ In re Guidelines for Dominant Carriers’ MTS Rates and Rate Restructure Plans, Memorandum Opinion and Order, 50 Fed. Reg. 42,946 (1985)(proposing the net revenue test as a means of testing the lawfulness of price reductions in the form of optional calling plans). But see In re Local Exchange Carriers’ Individual Case Basis DS3 Service Offerings, Memorandum Opinion and Order, 4 FCC Rcd. 8634 (1989), recon. pending (finding that individual case basis (ICB) rates for Special Access DS3 and DS3-equivalent services of Regional Bell Operating

panies, GTE Telephone Operating Companies, and other local exchange carriers were unlawful because the ICB rates filed for DS3 services were unreasonably discriminatory; ordering LECs to convert most existing ICB rates for DS3 and DS3-equivalent service to nondiscriminatory, generally available rates).

⁹ Fink, supra note 5, at 573-74.


¹¹ See, e.g., Ball Memorial Hosp., Inc. v. Mutual Hosp. Ins., Inc., 784 F.2d 1325, 1338 (7th Cir. 1986).

Competition is a ruthless process. A firm that reduces cost and expands sales injures rivals—sometimes fatally. The firm that slashes costs the most captures the greatest sales and inflicts the greatest injury. The deeper the injury to rivals, the greater the potential benefit. These injuries to rivals are byproducts of vigorous competition, and the antitrust laws are not balm for rivals’ wounds. The antitrust laws are for the benefit of competition, not competitors.

Id.
sales are achieved by undercutting rivals' prices. At one extreme of the contestable market model, a sole supplier may choose to set prices at marginal cost because of the threat of potential entry by competitors. At the other extreme is the economist's maxim of "perfect competition," in which there are many atomistic suppliers, none of whom is large enough to influence the market price with their output levels, all of whom are price-takers (i.e., they assume that the market price is given, and that they can sell all of their output at that market price). In between these two extremes, though not necessarily a subset of the contestable market model, is the concept of a "workably competitive" (or "reasonably competitive") market. A workably competitive market may exhibit characteristics such as independent price setting, a large number of firms, and free entry and exit, but not conform perfectly to the theoretical maxims of the perfectly competitive market or other models embraced within the contestable market model (by virtue of non-zero sunk costs of entry, a lack of truly atomistic suppliers, etc.).

Thus, the economics literature has produced many elegant theories of competition and the competitive process, but when stripped to its pragmatic essence, competition exists when customers have alternative sources of supply—either actual or potential—at prices they regard as comparable. True competition involves lawful battles for market share, which can involve the spirited offering by competitors of comparable quality service at lower prices, greater quality service for a given price, lower quality service at a commensurably lower price, or lower prices combined with greater quality. This is the essence of competition: offering consumers better alternatives than one's rivals by dint of skill, foresight, and industry. A market can be considered competitive if the level of competition from firms that produce reasonably close substitutes is sufficient to rule out the exercise of significant market power, or, if the level of competition from potential entrants is sufficient to rule out the exercise of significant market power.

A useful interpretation of the last definition of competition is that of Judges Posner and Easterbrook:

"Competition" may be read as a shorthand expression, a term of art, designating any state of affairs in which consumer welfare cannot be increased by moving to an alternative state of affairs through judicial decree. Conversely, 'monopoly' and 'restraint of trade' would be terms of art for situations in which consumer welfare could be so improved, and to 'monopolize' or engage in 'unfair competition' would be to use practices inimical to consumer welfare.

The discussion of competitive standards in telecommunications in this Article will proceed largely in the spirit of this interpretation of competition. Note that the economist's concept of perfect competition is not the basis of the discussion of competition in this Article. Although there are demand and cost conditions under which striving toward the maxim of perfect competition best serves the public interest, there are many other conditions that prove rivalry among a small number of firms to be more economically efficient than rivalry among a large number of them. Again borrowing the words of Judges Posner and Easterbrook, "The economic model of perfect competition was never intended as a policy prescription, and it is a basic, though extremely common, error to suppose that markets do not work efficiently if they depart from the model."

C. Why Economically Sound Competitive Standards Are Important to Good Public Policy

Central to the deregulation of any industry are three economic maxims. The first and most basic of these is that regulation should be applied to entire

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19 See, e.g., Reid, supra note 10, at 142.
10 A natural monopoly supplier may choose to set prices at the optimal Ramsey prices in the event that scale economies prevent the recovery of all costs at marginal cost prices.
14 A perfectly contestable market has a perfectly competitive market embraced within it. A perfectly competitive market is necessarily contestable, but many imperfectly competitive markets (e.g., monopoly) can be contestable. Both the perfectly competitive model and the perfectly contestable model have free entry and exit, but in perfect competition, sellers are necessarily atomistic, and each seller assumes his output decisions cannot influence the market price. A contestable market, however, may have a small number of firms, or even just one. See Reid, supra note 10, at 142.
15 Carlton & Perloff, supra note 10, at 94.
16 Note that the economist's concept of perfect competition is not the basis of the discussion of competition in this Article. Although there are demand and cost conditions under which striving toward the maxim of perfect competition best serves the public interest, there are many other conditions that prove rivalry among a small number of firms to be more economically efficient than rivalry among a large number of them. Again borrowing the words of Judges Posner and Easterbrook, "The economic model of perfect competition was never intended as a policy prescription, and it is a basic, though extremely common, error to suppose that markets do not work efficiently if they depart from the model."
markets, not just "large" firms or market participants. The way market power should be assessed, and hence the way regulation should be applied, can only be determined within the context of the entire market, its economic structure, and its participants, including the supply side (the firms) and the demand side (the customers).

Thus, a key question that arises is: What is the overall structure of the market?

This question leads into the second maxim, which is that regulation should only be applied to services for which there is "market power." Market power is usually defined in the law and economics literature as the ability of a firm, or group of firms acting in concert, to increase prices above competitive levels for a significant period of time before either competitive entry or the actions of existing rivals require the increase in price to be rescinded. Regulation is required as a ceiling on the upper limits of prices for services that are "vested in the public interest" and for which the seller has market power.

That these services are imbued with the public interest is the reason one observes standard rate base rate of return regulation or price ceiling regulation in industries such as telecommunications, natural gas and electric power. The key question to answer is: Is the market competitive (i.e., do all firms in the market for a given service lack the ability to exercise market power)?

The third maxim is that if a multiproduct firm supplying its services via the use of common plant and investment—as would be the case in a network-based industry such as telecommunications or electric power generation—has market power for some subset of its services, it may have no market power in the provision of its other services, meaning that such remaining services do not require regulation. A market in which there is no market power is one that can be considered subject to significant competition—in an economic, though not necessarily legal, sense—and hence should be deregulated, or at least made subject to reduced regulatory oversight.

The implementation of sound competitive standards, and the development of pragmatic methods for demonstrating compliance with these standards, are very important because they comprise an integral component in telecommunications policies necessary for a transition to greater reliance on market forces and less reliance on regulation. For example, competitive standards are crucial to the transition from asymmetric regulation to deregulation of telecommunications markets, and are equally important to the proper evaluation of state and federal policies that mandate competitive access to network facilities, such as collocation, expanded interconnection and unbundling.

Sound standards are also needed in conjunction with existing and future state laws that classify services as "competitive" and "noncompetitive," or that proscribe cross-subsidy flows from the "noncompetitive" service category to the other(s). Social welfare in this context refers to the joint maximization of consumer surplus and the profits of the firms servicing the market (i.e., producer surplus). The primary goal of the public interest standard of regulation is to protect consumers against the abuses of monopoly power. See George J. Stigler, The Theory of Economic Regulation, 2 Bell J. Econ. 3 (1971); Michael Waterson, Regulation of the Firm and Natural Monopoly 6-7 (1988).
II. STATE STATUTES GOVERNING COMPETITIVE STANDARDS FOR TELECOMMUNICATIONS

In general, competitive standards in state telecommunications law are rare, but those that exist are remarkably uniform. States having these standards include Colorado, Illinois, Iowa, Michigan, Minnesota, Missouri, Montana, New Mexico, North Dakota, Ohio, Oregon, Texas, Utah, Vermont, Washington and West Virginia. It is generally true that all the existing state statutes are based on relevant antitrust economics, and usually they are devoid of any unnecessary criteria that could muddy the waters of a regulatory proceeding and obscure important criteria like entry barriers.

A. Oregon Revised Statutes

The Oregon statute governing criteria for “competitive” telecommunications services is representative of most of the other state statutes, and employs the following criteria:

1. The extent to which services are available from alternative providers in the relevant market;
2. The extent to which the services of alternative providers are functionally equivalent or substitutable at comparable rates, terms and conditions;
3. Existing economic or regulatory barriers to entry;
4. Any other relevant factors deemed relevant by the commission.

Although the majority of states that codify this type of criteria follow the Oregon statute, Missouri and Texas have statutes governing competitive standards of a somewhat different nature.

B. Missouri Revised Statutes

According to the Missouri Revised Statutes, a service may be classified as noncompetitive (the “default” classification), transitionally competitive or competitive. A service may be classified as transitionally competitive or competitive if it can be shown that it is subject to sufficient competition to justify a lesser degree of regulation, and that the lesser degree of regulation is consistent with the protection of rate-payers and promotion of the public interest. The transitionally competitive classification allows a company more pricing flexibility than a noncompetitive service in the form of unrestricted pricing within pre-specified rate bands. The competitive classification allows even greater pricing flexibility and more waived regulatory requirements than the transitionally competitive classification.

One method for showing whether a service should be classified as either transitionally competitive or competitive begins with section 392.361 of the Missouri Revised Statutes. Under section 392.361, a petitioning company must show, based on “all relevant factors” specifically delineated by the Missouri


See Kaserman & Mayo, supra note 28, for an analysis of the various state statutes governing competitive standards.


This description of the Missouri Revised Statutes is adapted from In the Matter of Southwestern Bell Telephone Company’s Application for Classification of Certain Services as Transitionally Competitive, Missouri Public Service Commission, Case No. TO-93-116, Report and Order issued Dec. 29, 1992, at 4-5.

See infra note 28, supra note 31.
Public Service Commission ("PSC"), that the service is subject to sufficient competition to justify a lesser degree of regulation. The PSC has no time limit to reach a decision under section 392.361. Once a particular service is found to be transitionally competitive or competitive, section 392.361 permits the PSC to classify a similar telecommunications service of another company as transitionally competitive or competitive by relying on the finding of fact made in the original hearing.

A second method of arriving at the transitionally competitive or competitive classification is codified at section 392.370.1. Under this section, a petitioning company must show: (1) that an order has been issued under section 392.361 that finds a service has been classified as competitive or transitionally competitive; (2) that the service of the petitioning company is the same, substitutable, or equivalent to the service classified either competitive or transitionally competitive; and (3) that the competitive or transitionally competitive service is authorized to be provided in the petitioning company's service territory.

When a petition for classification is sought under this section, the PSC has ninety days to reach a decision under section 392.490.2 or the service becomes transitionally competitive automatically.

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28 Id. § 392.370.1.
24 Id.
28 The types of rate-setting flexibility allowed under the law include banded rates, customer-specific contracts and detariffing.
28 Tex. Admin. Code tit. 16, § 23.27, 13 Tex. Reg. 1089 (1988) as amended, 17 Tex. Reg. 7880 (1992). Until November 1992, the Texas Administrative Code listed twelve relatively demanding economic criteria for use in determining if services were subject to significant competition, and if additional pricing flexibility should be granted to the petitioning LEC. These twelve criteria were: (1) the threat posed by competition to the contribution the service provided to joint and common costs of the LEC and to the LEC's capital investment related to the service in the geographic market in question, or if the service does not require substantial investment and has not provided a contribution in the past, whether pricing flexibility will allow the service to provide such a contribution; (2) the number and size of telecommunications utilities or other persons providing the same, equivalent, or substitutable service, and the geographic areas served by those providers; (3) the financial and technical resources of specific competitors relative to the financial and technical resources of the LEC in providing the service; (4) the market share of the LEC for the service, the market share of specific competitors relative to the LEC's market share, and concentration ratios for the largest suppliers in the market; (5) the extent to which the same, equivalent, or substitutable service is available; the ability of customers to obtain such alternative services at comparable rates, terms, and conditions; and customer perceptions and knowledge regarding the availability of such alternative services in the geographic market in question; (6) the ability of telecommunications utilities or other persons to make the same, equivalent, or substitutable service readily available at comparable rates, terms, and conditions in the geographic market in question; (7) the existence of any significant legal, economic and other barriers to the entry into or exit from the geographic market in question and all other such markets for that service, the rate at which competitors are entering and leaving those geographic markets for the service; (8) evidence of cream-skimming strategies of competitors made possible by regulatory decisions or policies which have raised rates above the LEC's long run incremental costs in the market proposed by the LEC; (9) any deterioration or diminished growth of revenues, market share or service volumes of the LEC attributable to increasing competition for that service and how pricing flexibility, if granted, would mitigate or halt that deterioration or diminished growth; (10) the relative ability of the LEC and of competitors to make use of scale or scope economies in providing the service; (11) the ability of the LEC to use bottleneck facilities to discriminate against competitors, and measures needed to prevent such actions; and (12) the elasticity of demand both for all providers and for the largest providers of the service and of substitutes for the service, and the cross-elasticity of demand for the largest providers of the service and of substitutes for the service. Id. See Tex. Admin. Code tit. 16, § 23.27, 13 Tex. Reg. 1089 (1988) as amended, 14 Tex. Reg. 2989 (1989).
28 Id.
28 Id.
III. COMPETITIVE STANDARDS EMPLOYED IN THE FCC’S ORDER ON INTERSTATE LONG DISTANCE COMPETITION

On the federal side of the regulatory fence, the FCC has produced a variety of orders, although its 1991 order regarding interstate long distance competition (“LD Competition Order”) was based on sound antitrust economics. The LD Competition Order adopted further streamlining of tariff regulation of certain AT&T business services and authorized AT&T to offer services pursuant to individually negotiated customer contracts so long as the services were generally available to other similarly situated customers. It also eliminated nondiscrimination reporting and annual audit requirements for these services, as well as Comparably Efficient Interconnection (“CEI”) filing requirements and CEI parameters for enhanced services that rely exclusively on basic services subject to further streamlining. The FCC ordered these regulatory changes based on a finding that competition was sufficiently effective for most business services.

When reviewing the business services market, the FCC refused to accept AT&T’s arguments that all of its services should be deregulated because they were embodied in one single relevant product market. The FCC stated that:

[T]he existence of one market does not require either that we treat all services in that market identically for regulatory purposes, or that we find all services in that market equally competitive before adopting regulatory changes for one subset of services.

Instead, in determining that the business services market was substantially competitive, the FCC relied heavily on its finding that the business services marketplace is characterized by substantial demand and supply elasticities that limit AT&T’s ability to exercise market power. Specifically, the Commission analyzed the following seven factors to arrive at its decision.

A. Demand Elasticities

The FCC concluded that business customers were, to a large degree, demand-elastic because:

1. they had the incentive and ability to evaluate available options;
2. they were informed and sophisticated purchasers, soliciting bids from alternative suppliers before purchasing telecommunications services and utilizing telecommunications consultants in choosing service;
3. they considered the quality of several competitors to be equivalent;
4. they increasingly used multiple carriers;
5. name recognition and historic good will were reduced if users are sophisticated and informed; and,
6. factors such as an enormous advertising budget, competitors’ capital expansion and extensive negotiation processes in changing/establishing service all indicated increased competitiveness of the market.

The FCC derived these conclusions from survey results and comments made by large business customers, and comments made by the Department of Justice (“DOJ”) that the demand elasticity of large business customers and their ability to substitute their own networks is the most important factor constraining the exercise of market power.

B. Supply Elasticity

The FCC found that the market was characterized by a high supply elasticity owing to the fact that:

1. existing competitors have or can easily obtain additional capacity; and,
2. entry barriers are low.

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40 Id. at 5882 n.6.
41 A customer is demand-elastic if the amount of product he/she wishes to purchase is highly responsive to the price of that product.
42 In re Competition in the Interexchange Marketplace, supra note 39, para. 37.
43 Id. para. 39.
44 Id. para. 38.
45 Id. para. 40.
46 Id. para. 41.
47 Id. para. 42.
48 Id. para. 46.
49 Id. para. 43.
The FCC needed to determine whether AT&T's competitors had or could have quickly acquired at reasonable cost, the capacity necessary to take away enough business from AT&T to make monopoly pricing unprofitable. It relied on various studies that estimated the cost and time involved for inter-exchange carriers ("IXC") to carry additional traffic and rejected studies that would have had competitors replace virtually all of AT&T’s traffic.

C. Pricing “Below the Cap”

The FCC placed considerable weight on the fact that AT&T consistently priced special access services (except analog private line) below the “Basket 3” (Business Services Basket) price cap and below upper banding limits. To the FCC, these lower-than-required prices gave additional support to the conclusion that business services were competitive.

D. Market Share

Regarding market share, the FCC found that:

1. AT&T’s market share, both in terms of revenues and minutes of use, appeared to be significantly lower for business services than for other services.

2. AT&T’s business market share was more relevant than overall market share;

3. AT&T’s business market share appeared to be about fifty percent, a level not incompatible with a highly competitive market and,

4. market share alone was not necessarily a reliable measure of competition.

The FCC gave only a short discussion of market share, which included several disclaimers about the usefulness of market share data, at least as the sole determinant of the existence of competition. For example, the FCC stated:

While we believe that a protracted decline in market share tends to indicate a competitive market, we agree that market share trends can derive from a variety of factors and are not dispositive themselves of whether market power exists.

E. Interexchange Carrier Cost Structures

With respect to claims that AT&T enjoyed a significant cost advantage due to such factors as its more ubiquitous network, excessive distance sensitivity of LEC access tariffs, and traffic volumes that resulted in volume and term discounts through DS3s, the FCC concluded there was no evidence that AT&T enjoyed a significant overall cost advantage.

AT&T may have enjoyed cost advantages in certain areas, such as transport, but there were other areas where it may have been at a cost disadvantage, such as with the High Cost Fund, Lifeline, Equal Access Recovery cost, and some non-access-related costs (labor, pensions, maintenance). The Commission also found similar or better operating margins for some competitors, which indicated that at least some competitors did not face a higher cost structure. It was further determined that the possibility of future transport price changes did not enter into the evaluation of the existing market structure.

F. Resource Disparity and Financial Strength

While the FCC agreed that AT&T may have enjoyed certain advantages resulting from its size, superior resources, financial strength, and technical capabilities, such advantages did not necessarily confer market power. The issue was not whether AT&T had advantages, but whether any such advantages were so great as to preclude the effective functioning of a competitive market. Indeed, the competitive process itself is largely about trying to develop one’s own advantages, and all firms need not be equal in all respects for this process to work. The FCC believed, and the record confirms, that competition in business services is thriving, competitors are growing, and consumers are benefiting from these occurrences.

G. Competition in Rural Areas

The FCC rejected arguments that AT&T could
charge supracompétitive prices in rural areas where there was no effective competition because the vast majority of customers continue under generic, geographically averaged tariffs. Moreover, there was no evidence that AT&T Tariff No. 12 undermined geographic rate averaging. On the contrary, many AT&T Tariff No. 12 customers were located in whole or in part in rural areas. The FCC examined a number of factors in assessing the competitiveness of this market and did not arrive at a single determinant or rigid set of criteria for such an evaluation. The overriding factors it considered were supply and demand elasticities. To determine these elasticities, the FCC relied heavily on business customer statements and surveys, and on studies filed by AT&T and others. Other factors, such as market share and AT&T pricing practices, were used by the FCC as additional support for its conclusion. The framework which the Commission established in this review addressed the major factors generally agreed to be relevant in such an assessment, and is consistent with the factors considered by the courts in monopolization cases—even though, on the surface, the courts appear to have placed greater emphasis on market share results.

IV. COMPETITIVE STANDARDS EMPLOYED IN THE FCC’S ORDER ON CABLE TV COMPETITION

The Cable Act of 1984 (“Cable Act”) permits franchising authorities to regulate basic cable service rates if the cable system is not subject to “effective competition.” The Cable Act also directs the FCC to define what constitutes effective competition and requires the Commission periodically to review its regulation, taking into account technological developments. In 1985, the Commission established as its first effective competition standard the availability of three unduplicated over-the-air signals. In 1990, it initiated a proceeding to reevaluate this standard because it found that the nature of basic cable service had changed. In July of 1991, after extensive investigation, the Commission issued an order adopting a new effective competition standard. The order also delineated standards for rate regulation by franchising agencies and adopted a Second Further Notice to seek additional information on whether “must carry” rules are needed and how they could be tailored to survive a constitutional challenge.

On October 5, 1992, Congress voted to override a Presidential veto and adopt the Cable Television Consumer Protection and Competition Act of 1992 (“the Act”). This Act contains numerous statutory provisions affecting all aspects of cable services, including the determination of effective competition. Since its enactment, the FCC has initiated a number of proceedings to implement new rules in compliance with this Act. On April 1, 1993, the Commission issued a First Report and Order adopting rules prohibiting unfair or discriminatory practices in the sale of satellite cable and satellite broadcast programming. These rules are intended to increase competition and diversity in the multichannel video programming market, and foster development of competition to traditional cable systems.

A. Effective Competition Standard of 1991

In its evaluation of what constitutes effective competition, the Commission’s goal was to arrive at a standard that would be conservative enough to ensure a complement of signals adequate to provide effective competition to the signal retransmission function of the cable system’s basic tier, yet not so conservative as to result in undue rate regulation. To achieve this, the Commission has adopted a standard that contains two separate structural tests. If either of these tests is met, then the cable community is deemed to include effective competition.

1. Signal Test

The first test considers how many free broadcast signals are available in a market. The greater the number of free broadcast signals, the greater the...
number of effective alternatives a consumer has to paid, basic tier cable service. The Commission determined that the “three signal” standard was inadequate and adopted a “six signal” standard. Under the new standard, a cable system is deemed to face effective competition if at least six unduplicated broadcast television signals are available over the entire cable community, although the same six signals need not provide service to the entire community. The Commission maintained its existing standard for signal availability. The Commission also evaluated if it should require a cable penetration criterion along with the six signal standard to provide evidence of actual signal availability. It concluded that a cable penetration rate is not a reliable indicator of either poor off-air signal quality or of cable market power, for several reasons. First, the demand for cable service and the resulting penetration rate in a given area are significantly affected by a number of additional factors besides off-air signal quality, such as price, quality of service, income, demographics, age of system and varying viewing tastes. Therefore, penetration levels do not always vary directly with basic cable rates. Second, a penetration criterion could actually penalize those cable systems that achieve high penetration as a result of conducting subscriber-sensitive marketing and offering quality service at a reasonable price. Finally, an imposed penetration threshold could provide an incentive for cable systems to remain under the designated penetration rate, thus artificially interfering with cable marketing decisions. For these reasons, the Commission declined to adopt a penetration criterion in conjunction with the six signal standard.

2. Multichannel Competitor Test

In communities lacking six over-the-air signals, effective competition may also exist if another multichannel provider is present and offers multiple channel options. The second test of the effective competition standard considers the availability of a competing, independently-owned, multichannel video delivery service in the cable community, and establishes a benchmark that must be met to indicate effective competition. Specifically, effective competition exists if an alternative system is available to at least fifty percent of the homes that currently have cable service available to them (regardless of whether or not they subscribe to the incumbent service), and at least ten percent of those homes subscribe to that alternative service. It is not necessary that the same alternative service be available throughout the area. The Order further details the types of providers that are considered alternative systems and the computations required to arrive at the aforementioned percentages.

In its analysis of the multichannel competitor test, the Commission considered whether “potential competitors,” such as a neighboring multichannel provider, should be included as an alternative to the incumbent cable system. The Commission rejected this on grounds that, while the potential for competition may constrain a cable system’s rates in some instances, it is not clear that “potential competition” will generally have this effect.

3. Competitive Behavior Test

The Commission also considered, but rejected, a competitive behavior test intended to identify those markets where competitive forces not identified by the proposed structural tests would have a price-disciplining effect on cable services. Under this test, a cable system would have been considered subject to effective competition if it offered a basic tier of service corresponding in rates and quantity to specified benchmarks. The benchmarks were to be based on cable service in areas where effective competition was readily apparent. In addition, the cable systems would have to have met certain customer service standards. While the Commission favored such a test in concept, it conceded that it could not overcome the practical problems associated with developing an objective nationwide benchmark that would be readily applicable on an individual community basis. Basic service rates reflect a multitude of factors dependent on the characteristics of the cable system and its community, which can differ locally or from system to system in the same area.

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70 Id. para. 24.
71 Id. para 24.
72 Effective Competition Standard, supra note 66, para. 28.
B. Cable Act of 1992

The Cable Act of 1992 mandates regulation of rates of basic cable services and cable programming services if the Commission finds that a cable system is not subject to effective competition. However, if a cable system is subject to effective competition, then the Act prohibits the regulation of rates. The statute provides three separate tests that establish whether a cable system is subject to effective competition. The three tests are:

1. Fewer than thirty percent of the households in a given franchise area subscribe to the cable service of a cable system;

2. The franchise area is (a) served by at least two unaffiliated multichannel video programming distributors, each of which offers comparable video programming to at least fifty percent of the households in the franchise area, and (b) the number of households subscribing to programming services offered by multichannel video programming distributors other than the largest multichannel video programming distributor exceeds fifteen percent of the households in the franchise area; or

3. A multichannel video programming distributor operated by the franchising authority for that franchise area offers video programming to at least fifty percent of the households in that franchise area.

To comply with the Act and amend its rules accordingly, the Commission initiated a number of proceedings. The issue of effective competition is addressed in the Rate Regulation proceeding. In the Rate Regulation notice, the Commission sought comment on how to clarify and define some of the terms used in the Act to describe the new tests for effective competition. Based on the information gleaned from the comments and reply comments, an order was issued on April 1, 1993.

V. COMPETITIVE STANDARDS AND MARKET STRUCTURAL CHARACTERISTICS

Most of the competitive criteria used in the state statutes and in recent key FCC orders can be placed into one of three specific categories: (1) nature and availability of substitute suppliers and services; (2) economic structural market conditions emanating from the existence of sunk costs or other economic conditions, such as entry barriers; and, (3) consideration of relative size of market entrants with respect to the regulated incumbent supplier(s). This section and the following two major sections discuss the various categories outlined here, and provide an integrated discussion of the criteria comprising each category, with background material, economic analysis, and recommendations as to how attorneys might make pragmatic demonstrations of compliance with the relevant criteria before a telecommunications regulatory agency.

A. Market Power and Market Share

All state statutes governing telecommunications competitive criteria employ the criterion of the nature and availability of substitutes to the petitioning company's services. The FCC also relied heavily on this criterion in recent key orders on long distance competition and cable TV.

In general, the existence of market power is the measure of how competitive a market is. Thus, to the extent that this criterion in telecommunications law could provide meaningful indicators of market power, it would be sufficient to ensure that a service is competitive or not. Market power is defined as the ability of a firm (or group of firms) to raise prices above competitive levels for a significant period of time. Stated another way, it is the ability of a firm or group of firms acting jointly to raise prices above the competitive level without losing so many sales so rapidly that the price increase is unprofitable and must be rescinded. Not surprisingly, this ties in directly to the existence of market structural characteristics such as the existence of other firms selling substitutes, and the lack of entry barriers.

Market share for a single firm is ideally defined as the firm's sales divided by the productive capacity of all the firms producing the same item and items that consumers regard as reasonable substitutes. It is usually calculated in terms of the firm's share of the total market's sales revenues, volumes, or capacity (in physical terms), though if the intent is to measure the supply capability of alternate suppliers, us-
ing relative shares of capacity is best. Market share is typically used as a proxy for market power, albeit a strictly imperfect one. Market share as a stand-alone indicator of market power is problematic because it provides a myopic view of the entire market, particularly in regulated industries undergoing a transition to competition.

Market share is but one determinant of market power. Also required is a definition of the relevant market, which has a product dimension and a geographic dimension. Defining the market is often a contentious process in the courts, but one that is normally not addressed in state regulatory proceedings, where the state and the service (plus several of its obvious substitutes) are usually assumed to be the “market.” A “high” market share in a regulated industry undergoing a transition to competition may mean nothing in terms of market power, since it may be but an artifact of the past, devoid of information concerning a regulated firm’s actual ability to control current prices. This latter point has been made in the courts.84

In fact, the following three general propositions can be stated about market power and its relation to other industry structural considerations:

1. Market power varies directly with market share.

2. Market power varies inversely with the elasticity of the industry demand.

3. Market power varies inversely with supply elasticity.85

Because of the effects of market supply elasticity and the price elasticity of demand, both of which are inversely related to market power, a “low” market share is indicative of a lack of market power, but a “high” market share does not necessarily indicate that market power exists, since high market shares can coexist with high price elasticities and supply elasticities, both of which serve to dampen market power. Thus, while low market shares can be dispositive of a finding of no market power, high market shares alone do not allow a regulatory agency to make any reliable inferences.

Analyzing the availability of substitutes is a valuable and practical criterion. The availability of substitutes, and the existence of other firms selling them determines in large part how demand elasticity, supply elasticity, and market share will look. One is usually unlikely to find sufficiently reliable market share, industry elasticity, and supply elasticity data to permit a precise estimate of market power. To be more specific, the greater the number of substitute services, the greater the price elasticity of demand, and the lower the market power of a given firm operating in that market. Additionally, the greater the number of substitute services, the greater the supply elasticity in the market, and the lower the market power of a given firm operating in that market.

Thus, it is wiser to rely on determinants such as the existence of competitors, and hence of substitutes, if one is deriving a practical rule that can actually be implemented in an industry as complicated as telecommunications. The existence of potential competitors should be assessed when examining ease of entry, but it may be difficult to do this pragmatically.

There are quantitative measures of market power, such as the Lerner index,86 but these can be misleading when applied to a multiproduct firm that has significant levels of shared costs. The simple Lerner index, which is computed as price minus marginal cost, divided by price, may yield misleadingly high numbers, and hence incorrect inferences when applied to multiproduct firms. First, telephone company services often have low avoidable costs that are directly attributable to one service, but significant costs—both avoidable or sunk—that are shared by a potentially large number of services. It would be economically infirm to allocate such costs to any one particular service or market. Second, Lerner’s index uses marginal costs that include the opportunity cost of capital, whereas telephone company cost studies may not always include this component. Again, this would have a tendency to make the index misleadingly high. Third, Lerner assumed that prices were

83 The court in Ball Memorial recognized this: “Market share is just a way of estimating market power, which is the ultimate consideration. When there are better ways to estimate market power, the court should use them. Market share reflects current sales, but today’s sales do not always indicate power over sales and price tomorrow (citations omitted).” Ball Memorial, 784 F.2d at 1336.

84 Metro Mobile CTS, Inc. v. New Vector Communications, Inc., 892 F.2d 62, 63 (9th Cir. 1989)(“Reliance on statistical market share in cases involving regulated industries is at best a tricky enterprise and is downright folly where, as here, the pre-dominant market share is the result of regulation. In such cases, the court should focus directly on the regulated firm’s ability to control prices or exclude competition.”).

85 These are discussed in Landes & Posner, supra note 22, at 944-52, and in Sullivan & Harrison, supra note 82, at 220-22. A good general discussion within a case study may be found in Daniels & Kamerschen, supra note 16, at 147-49.

simple uniform tariffs, though in reality telephone company prices are often complicated multipart tariffs. One way around this problem would be to use service revenues in lieu of "price" in the Lerner formula, but then the problem of mismatching costs arises. The problem this poses is: How does the analyst make the correct comparison of revenues to costs when there are avoidable shared costs that cannot be allocated to any one service or group of services in an economically meaningful way? Other conceptual questions arise as well. Does a regulated firm supply its services at the cost that a competitive firm would? Should the Lerner index be computed using only avoidable costs, i.e., should sunk costs be excluded? If lump sum charges, paid up front at the time of service connection, are designed to recover costs that become sunk once incurred, should they be included in the revenues used in the Lerner index? Even in the face of perfect data, the Lerner index may be ill-suited as a measure of market power for an incumbent telecommunications supplier that is undergoing a transition to competition.

B. Availability of Substitutes, Demand Elasticities, and Cross-Price Elasticities

In gauging whether a market is in transition to competition, one must determine if there are substitutes to services that were provided only by a sole supplier in the past. Thus, an important issue to consider is when services are substitutes for each other. Generally, the term "substitutes" in economics is used to describe pairs of goods or services such that an increase in the price of one product or service causes a corresponding increase in the amount of demand for the second comparable product or service. Stated another way, if two services have a positive cross-elasticity of demand with respect to price, then they can be considered substitutes. Services need not be operationally identical in order to be substitutes for each other. "Operationally identical" here means that they need not have the same method of operation, or underlying technology to be considered substitutes. The question of substitutes may involve a trade-off between price and level of quality. The importance of this latter point cannot be emphasized enough, for it gets at the very essence of what substitute services are.

If consumers have one service available to them, and another service is perceived to be of lower quality or convenience but sells for a commensurably lower price, then the lower quality service can very easily be a substitute for the original service, even if not technically identical (or even operationally "transparent" to the user). This is so because there are services for which the differential in quality is compensated by the differential in price. Whether a service is technically identical to another service, and vice versa, completely misinterprets the issue of what substitutes are. The real issue is whether customers can substitute one service for another service, or use it as a replacement, at prices they regard as comparable. Services that are not identical can still be substitutes for each other.

How does one determine if two services are substitutes? One way is by estimating the cross-elasticity of demand between them. If the estimated cross-elasticity between two services are deemed to be positive, then one could reasonably conclude that those two services are substitutes. Suppose there are two services, each sold at a given price. Assume that we alter the price of one of these services by raising it, and then observe what happens to the quantities sold of the second service. Given this simple exercise, a cross-elasticity is simply the ratio of two numbers: the percentage change in the quantity of the first service, and the percentage change in the price of the second service. If these two services are substitutes, then the cross-elasticity will be positive.

An examination of the "own-price" elasticity of a service (i.e., the percentage change in the service's own quantity divided by the percentage change in its price), however, is not a direct test of whether it has substitutes. The test of whether a service has any substitutes is based on an examination of cross-elasticities, not own-elasticities. Thus, a service that has substitutes can have an own-price elasticity of demand that is inelastic, which means that a service's...
own-price elasticity does not allow inferences about substitutes under economic theory. Regardless of the own-price elasticity, the service may still have many substitutes, or none at all.

When determining whether a service has substitutes, the elasticity of demand for that particular service is not as useful as the relevant cross-elasticity with respect to another service, both in theory and in practice. Yet, this very fact is often a cause of confusion for non-economists. The logic behind the use of demand elasticities is that if a service has a "high" elasticity, it is due to the competitive forces being exerted on the product in question, i.e., the availability of substitutes combined with spirited price competition creates the high elasticity. While this may be true, it is also true that a high elasticity may indicate that a service is being priced at monopoly levels, since a true, unregulated monopolist with complete control of its market will always set prices in the elastic region of a demand curve when it is maximizing profits. Thus, a study that indicates an elastic demand elasticity—one that is greater than one, in absolute value—may be inconclusive and should not comprise a stand-alone indicator of competition.

The power to control price, and therefore exercise or maintain market power, requires a low own-price elasticity of demand. A low estimated own-price elasticity can serve as partial support for inferences of market power, because market power is power over price, and a low own-elasticity means that relatively few sales would be lost if prices were increased. A low estimated own-elasticity—for instance, one that is practically zero—for an incumbent firm undergoing transition to a competitive market, however, is not necessarily an indicator of conditions that somehow are inimical to the public interest (i.e., where customers are "captive ratepayers" with no alternative sources of supply). For example, the price elasticity of demand for basic local exchange service has been estimated econometrically as being practically zero, ranging from -.01 to -.04. These are extremely inelastic numbers.\footnote{See, e.g., J. Bodnar, P. Dilworth & S. Iacono, Cross-Sectional Analysis of Residential Telephone Subscription in Canada, 3 INFO. ECON. & POL'Y 359 (1988); L.D. Taylor & D. Kridel, Residential Demand for Access to the Telephone Network, in TELECOMMUNICATIONS DEMAND MODELLING: AN INTEGRATED VIEW 105 (Aalin De Fontenay, Mary H. Shugard & David S. Sibley eds., 1990).}

What does this say about basic local exchange service, perhaps the most stringently monitored and regulated service in telecommunications? It means that regulation of the prices for this service has succeeded in stemming any market power that a telephone company might have been able to exercise if regulation was absent. The lower the price, the lower the price elasticity of demand. Since regulation has kept basic local exchange rates quite low for many years, the low elasticity is likely the result of market power not being present, due to regulatory pricing policies designed to maintain universal service. Thus, a "low" own-elasticity may signify one of two states of affairs: that regulation has constrained market power, or that the regulatory constraint is too liberal to have constrained market power. In other words, it may tell the investigator very little.

While econometrics\footnote{Econometrics is the quantification of economic relationships using economic theory and a variety of advanced statistical and mathematical tools.} has revolutionized the estimation of demand elasticities over the past two decades, it is not always easy to measure own-price elasticities of demand with a high degree of statistical precision. In telecommunications and in other industries, price elasticities are measured using sophisticated and expensive econometric models. These models often require a great deal of time series data, which are data measured over uniform discrete periods of time, and cross-sectional data, which are data regarding geographic units such as states. Even with these data, econometric modeling results in estimates of some degree of precision, but never absolutely precise numbers. Although econometric methods are sound statistical methods of estimating price elasticities, they cannot guarantee that such estimates have variances close enough to zero to afford sufficient statistical precision. Most telephone companies have a relative dearth of information on price elasticities of their services, with intraLATA toll and residence basic local exchange service being those typically found to exist.

In interpreting own-price elasticities for purposes of regulatory proceedings, it is important to distinguish between the concepts of firm elasticity and market elasticity. If elasticities are considered important as a demonstration of market power, then firm elasticities are what should be examined. This is the demand curve an individual firm faces in selling its products. The market elasticity corresponds to the overall market demand for a product, and charts how much total demand there is across all firms for a given price.\footnote{See CARLTON & PERLOFF, supra note 10, at 78-82; David Scheflman, Statistical Measures of Market Power: Uses and Abuses, 60 ANTITRUST L.J. 901, 914-17 (1992).}
Given this distinction, what should one expect to see if elasticities are computed for telecommunications services that are arguably "competitive"? Note that firm elasticities are higher than market elasticities, and in fact, can be several times that of the market demand elasticity. Firm elasticities are more important than market elasticities as a piece to the puzzle of competitiveness, and highly elastic firm elasticity is not unusual. If a petitioning LEC’s estimated firm price elasticity in a given market is less than one—and therefore inelastic in absolute value—should it be concluded that the LEC actually retains market power and that the market is not yet competitive for purposes of public policy? The answer, of course, is No.

The reason this answer is No becomes apparent when one recognizes that econometrics is normally used in the estimation of demand elasticities. What will econometric demand elasticity estimates look like if the firm for which they are estimated has had a consistently high market share for the entire period in which the demand and price data were collected? Such estimates should look quite low for firm elasticities; too low, in fact, to be firm elasticities in the first place. This is because the “firm” at one time was in large part the “market.” This leads to the expected result of relatively low firm elasticities when examining firms that at one time were regulated monopolies, but are currently undergoing a transition to competition. Thus, low estimated own-price elasticities may not yield inferences as to market power on a forward-looking basis for a firm that historically had a large share of the market due to regulation.

As discussed, examining own-price elasticities is not likely to be helpful in making a determination of market power. The essence of having competitive choices of products is substitutability between products, and so cross-elasticities are more useful than own-price elasticities, though in practice they, too, are difficult to apply. In theory, cross-elasticities are used to determine when products are substitutes for each other and what products or services should be included in a market definition before market shares can be computed. In practice, it can be difficult to compute these numbers with statistical reliability.

There are as well conceptual problems and potential problems in properly interpreting cross-elasticities. For example, a high cross-elasticity between two services may mean that they are substitutes; it may also mean that one of the services is already priced at monopoly levels, which yields the high cross-elasticity. In addition, while a positive cross-elasticity indicates that services are substitutes, a negative cross-elasticity does not mean that they are not substitutes. Further, if the services involved are sold in greatly differing quantities—which would most likely be the case for a regulated monopoly undergoing transition to what may currently be a highly competitive market—then what is actually a very high degree of substitutability may appear to be a prima facie low degree because the resulting cross-elasticity computation is low. One could easily get a low estimated cross-elasticity for a regulated firm’s cross-elasticity with respect to the service offered by one of its competitors, and erroneously conclude that the two services are not close substitutes, when in fact they are.

While cross-elasticities are more relevant to an examination of market power than own-elasticities, they are not free of interpretational problems. Even if data were perfect and plentiful, it may be difficult to know what an estimated cross-elasticity is indicating purely on its face. For this reason, it may be best to use econometric estimates of cross-elasticities if they are available, test them to see if they are statistically significant, and combine them with other information regarding the substitutability of alternate services. This other information can be derived from several sources, including market survey data of customers and compilations of all the services that perform the same function at reasonably commensurable prices.

VI. ECONOMIC STRUCTURAL CONDITIONS OF THE MARKET

A. Scale and Scope Economies

No state statute or FCC order has listed scale and scope economies as criteria for determining competition, though the Texas Administrative Code did list these until a recent rewrite of the law. Even so, the existing state statutes may have assumed that these

95 See generally Klaus Stegemann, Cross Elasticity and the Relevant Market, 11 ZEITSCHRIFT FÜR WIRTSCHAFTS UND SOZIALWISSENSCHAFTEN 151 (1974).
96 This situation is often referred to as the “Cellophane fallacy,” which was committed by the Supreme Court in U.S. v. E.I. Du Pont de Nemours & Co., 351 U.S. 377 (1956). See
97 Sullivan & Harrison, supra note 82, at 222-23 for a brief discussion of this.
98 That is to say, perform a one-sided parametric statistical test to see if the cross-elasticity is greater than zero.
99 The repealed Texas criteria were: “the relative ability of
criteria are included implicitly under the criterion of entry barrier analysis, since some analysts consider scale or scope economies to be entry barriers. Thus, this section discusses the characteristics, and policy implications of scale and scope economies.

1. What Are Scale and Scope Economies?

Before this section can proceed with a discussion of scale and scope economies, and what they offer toward inferences on competition, it is first necessary to define some key costing concepts.

Incremental cost of a service is the additional cost to the firm of supplying that service. It includes a service's volume-sensitive costs and any avoidable service-specific fixed costs associated with the provision of that service. It excludes costs directly attributable to the production of other services, and certain unattributable costs which (1) are incurred in common for some subset of the services supplied by the firm, and (2) cannot be avoided if the level of output is altered or terminated. Incremental cost is relevant to business decisions—addition of a service, expansion of the output level of a service, cessation of a service—only on a forward-looking basis. In fact, this is the only way one can view costs as having any meaning from the standpoint of economic analysis of business decision-making.\(^\text{100}\)

Average incremental cost for a given output level is the total incremental cost of that entire output level, as distinguished from the “last unit of output,” divided by that output level. Similarly, a service has declining average incremental costs if its average incremental cost falls with increasing output levels.

There are scale economies specific to a single service if that service's average incremental cost divided by its marginal cost is greater than one.

Economies of scope occur when a firm is able to generate efficiencies from producing several products. For example, in the two-product case, economies of scope would exist if, for given amounts of the two products, it is cheaper for one firm to produce the products than it is for two different single-product firms, i.e., stand-alone firms, to produce the products separately. In other words, the joint costs of production are less than the stand-alone costs of production when economies of scope exist.

2. What Do Scale and Scope Economies Indicate?

Taken at face value, scale and scope economies offer very little assistance when one is attempting to determine if a service is subject to significant competition. At one time, it was thought that scale economies were sufficient cost conditions to produce natural monopoly.\(^\text{101}\) Scale economies were considered an entry barrier in the Bainsian tradition.\(^\text{102}\) Modern economic theory, however, indicates quite clearly that the existence of scale or scope economies in and of themselves provide no inferences as to whether natural monopoly conditions exist for a multiproduct firm. Further, the modern theories on entry barrier analysis, discussed infra, indicate that the concept of sunk costs is most important to the question of entry barriers, not scale or scope economies. Thus, an examination of scale or scope economies alone is not likely to be helpful in determining if a given service is subject to significant competition. If these cost conditions were present in a LEC, it would indicate that other firms would find it potentially quite difficult to compete with that LEC. This difficulty would stem, however, from productive efficiencies that benefit of how the total expenses of an enterprise ought to be defrayed. Nor does it mean that cost conditions play no part in determining the answer to this question.


\(^\text{100}\) Economics Nobel Laureate Sir Ronald Coase’s analysis of costs and prices says it all:

Almost all economists would agree, I think, that it is desirable that prices should in general cover costs. Further, most economists would agree that the costs are a marginal, additional, or incremental concept; that this is the only sense in which you can talk about costs; and that there really cannot be in a strict sense a category of fixed costs. Again, I think most economists would agree that the costs which are relevant for pricing are current or future costs, and that the so-called historical costs can be ignored. A final point on which most agree is that the allocation of joint or common costs between products or services for the purpose of determining prices is without meaning. This does not mean that it is impossible to discuss the question.

\(^\text{101}\) This is true of firms producing and selling just one product, but is not true for multiproduct firms. The condition of scale economies was considered the necessary condition for natural monopoly for multiproduct firms until the pathbreaking paper of economist William Baumol. William J. Baumol, *On the Proper Cost Tests for Natural Monopoly in a Multiproduct Industry*, 67 Am. Econ. Rev. 809 (1977). Essentially this paper developed the concept of “subadditivity” as the basis of natural monopoly, which may have little to do with scale economies in the multiproduct context.

\(^\text{102}\) This refers to the original economic research on entry barriers by Joe S. Bain, who considered scale economies to be an important entry barrier. *Bain, infra* note 113.
consumers via lower prices. In other words, if scale and scope economies precluded other firms from participating in the market, customers are likely to be benefited more than if the market were served by a proliferation of firms.

3. Natural Monopoly, Scale Economies, and Scope Economies

Economic theory tells us that the existence of scale and scope economies together do not imply the cost conditions required for natural monopoly. Natural monopoly occurs when a single firm is the most efficient provider for the output of an entire market. The core concept of interest is subadditivity and the cost conditions that can produce it, not scale economies, as was thought to be the relevant cost condition prior to Baumol’s path-breaking paper in 1977. If the cost of a group of services is subadditive, then the output levels of that group of services can be produced more cheaply by a single firm than by any group of two or more firms. Given this, an industry is said to be a natural monopoly if the costs for the services comprising that industry are subadditive over the entire relevant range of output. In light of this latter point, economic theory offers us several implications for subadditivity.

First, economies of scale are neither necessary nor sufficient for subadditivity or natural monopoly. Second, economies of scale and economies of scope together still do not suffice for subadditivity, and so an examination of these concepts cannot tell us if we are dealing with a natural monopoly. Third, the concept of decreasing average incremental costs up to and including a given product-specific level of output for each product in a given product grouping, combined with economies of scope at those same levels of output, implies that costs are subadditive. Fourth, while there exists no logical connection between economies of scale and subadditivity for the multiproduct firm, economies of scope must be present if costs are subadditive. Note, however, that scope economies alone do not imply subadditivity.

As evinced by the above discussion, it is not clear what would be gained from even a perfect knowledge of scale and scope economies. Suppose a LEC had scope economies? Most telephone companies do, though it is difficult to measure the extent to which they exist. What would this mean in the determination of whether a market was competitive? Certainly, if a LEC has scope economies and other, smaller firms do not, it may make it impossible for such firms to compete on the merits with the LEC. In general, there is nothing anticompetitive about this, for it is simply the fact that the incumbent LEC may legitimately be more efficient than its competitors, and these superior efficiencies may arise from scope economies. If this is so, it may be that no competitors are observed for services for which a LEC can effectively harness its scope economies. Certainly, one cannot conclude that a LEC has some “unfair” advantage if it boasts scope economies, but smaller competitors do not. Thus, looking at this type of indicator reveals little about whether a proliferation of firms could actually improve the public interest via increases in productive efficiency.

4. Costs and Market Structure

This section knits together the interplay of costs, demand conditions and industry structure, and indicates why these concepts are important in evaluating whether a market is competitive. To have a complete understanding of market structure and how it affects public policy, it is absolutely imperative to understand that market structure is determined, for the most part, by the interactions between the determinants of firm size and the size of the market. The former is determined by the cost conditions of the firm(s) servicing the market, but the latter is determined by market demand conditions, or customers’ “willingness to pay,” as it is often called. The interaction of these two determinants places parameters on the structure of the industry, i.e., limits on the number and the size distribution of firms likely to be observed in the industry.

Given technological cost conditions and market demand conditions, then, a market is structurally competitive if a “large” number of firms servicing the market leads to a division of output that yields the lowest possible total industry costs. This likely will be the case if there are many firms, all of which have “low” minimum efficient scale, i.e., their respective scale economies are exhausted at relatively low levels.
of output. Similarly, a structural natural monopoly exists when one firm servicing the market yields the lowest possible total industry costs. In between these two extremes, it is possible that only an oligopoly can lead to total industry cost minimization.

The most basic economic rationale for the regulation of the prices of a multiproduct firm is the existence of natural monopoly. A market consisting of only a single provider is the most efficient industry structure. As such, it is not necessarily objectionable from a public policy standpoint, but such single firm supply can result in monopolistic pricing. In this case, the role of regulation is to permit the most efficient industry structure, while regulating prices in such a way as to simulate the economic outcome of a competitive market, if competition were feasible. Thus, natural monopoly cost conditions are not economically objectionable. It is the monopoly pricing itself that is economically wasteful, not the cost conditions that permitted it.

To summarize what the above discussion offers to policymakers, a lack of proliferation of alternate suppliers does not necessarily mean that the public interest is being harmed. Whether any market can be “competitive” in a way that truly benefits consumers, i.e., enhances economic welfare, depends in large part on the cost characteristics of the firms available to serve that market. If there are many firms available to serve a market, and all such firms have low minimum efficient scale, then total industry demand can be supplied most efficiently by a competitive market structure. If, however, total industry demand can be served most efficiently by one firm, or a “small” number of firms, then expecting a proliferation of firms to somehow emerge and benefit consumers through lower prices is economic naïveté. In such a case, a preclusion of “competition”—defined here as a simple proliferation of alternate suppliers—does not harm the public interest, though in the presence of entry barriers, telecommunications utility regulation in the form of price-ceiling regulation may have to be maintained to prevent monopoly pricing.

B. Entry Barrier Analysis

Like the criterion of the availability of substitutes, the criterion of entry barriers also appears in all state statutes governing telecommunications competitive standards, and it also plays a key role in the FCC’s order on interstate long distance competition. This criterion easily is among the more important and useful concepts in the analysis of market power. It generally is true that if there are significant barriers to entry, a de facto monopoly may exist that would result in the ability of a firm to exert market power. Entry barriers are a necessary condition for market power, as they allow a firm to block or deter other firms from entering the market while the incumbent raises prices above competitive levels. Market power can be said to exist only if barriers to entry are substantial enough to allow the incumbent firm unfettered control over prices.

On the other hand, if entry barriers are minimal, i.e., there is “ease of entry,” then the threat of entry inhibits any exercise of market power. In the context of telecommunications law, an examination of “ease of entry” is likely to be important for a number of reasons, most compelling of which is that if entry into the market is facile, deregulation may be in order.

The possibility of deregulation depends as well on the state of the market at the point when entry barriers are raised, and the demand side of the market. The key underlying issue remains whether there are likely to be entry barriers to the market of interest, and if so, whether these barriers allow the maintenance or exercise of market power. Absent considerations of market power, entry barriers in and of themselves are not necessarily inimical to the public interest, nor relevant to public policy issues.

It is notable that in antitrust law, entry barrier analysis is now considered a powerful tool in merger controversies and in predatory pricing cases. The laws governing competitive criteria seek to answer some-what the reverse of this question: Does a regulated firm that once was presumed to possess market power in certain markets still, in fact, possess that market power in those same markets? Thus, the power of entry barrier analysis in merger cases carries over to the questions the laws governing competitive criteria were designed to address. See generally U.S. Department of Justice and Federal Trade Commission Horizontal Merger Guidelines (Apr. 2, 1992), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,104 [hereinafter Merger Guidelines].

In fact, several recent court decisions have held that market share data are not a sole indicator of market power and that
courts, the Justice Department and the Federal Trade Commission have made the examination of entry barriers a fundamental and potentially dispositive step in the evaluation of mergers.\textsuperscript{109} Ease of entry can also determine the outcome of monopolization cases under section 2 of the Sherman Act, and rule of reason cases under section 1.\textsuperscript{110} Thus, when "ease of entry" is shown for a given market, it has important ramifications for the regulatory handling of such a market. It is a strong indicator that market power is absent, and that the market could be deregulated.

1. What Conditions Constitute Ease of Entry?

For a given telecommunications market, what constitutes the conditions for ease of entry? Unfortunately, the courts have not offered consistent guidance as to what is and what is not an entry barrier. Further, those courts that have wisely chosen to give considerable weight to the criterion of entry barriers have not always adhered to sound economic principles.\textsuperscript{111} To confound things a bit further, the economics literature seems at first glance to offer an embarrassment of riches on entry barriers.\textsuperscript{112}

Economists over the last thirty-five years have disagreed on the true definition of barriers to entry, though all definitions focus on cost differentials between incumbent firms in the market and prospective entrants.

The first work in this area was completed in 1956 by Bain, who specified three sources of entry barriers: absolute cost advantages of incumbent firms, economies of scale, and product differentiation advantages of incumbent firms.\textsuperscript{113} In general, Bain defined entry barriers as those things which in the long run allow an incumbent firm to charge supracompetitive or monopoly prices without inducing new entry.

The next important definition of entry barriers was derived by Stigler in 1968, who took a more narrow view by arguing that the definition should center on only those factors that give the incumbent firm a long-term differential in production costs. Stigler's definition asserted that an entry barrier is a cost of production for an entrant that is not incurred by already established firms.\textsuperscript{114} Stigler argued that the only barriers that antitrust law should care about are advantages of incumbency which result in long-term cost differentials in production costs. Any such advantage allows the incumbent firm to raise prices above marginal costs without attracting entrants to the market. The classic Stiglerian entry barrier consisted of such consideration is subordinate to ease of entry considerations. Bacheus Industries, Inc. v. Arvin Industries, Inc., 1991 WL 105488 (10th Cir.(N.M.)); United States v. Syufy Enter., 903 F.2d 659, 673-74 (9th Cir. 1990)(Quackenbush, concurring); California v. American Stores Co., 872 F.2d 837, 842-43 (9th Cir. 1989); Oahu Gas Service, Inc. v. Pacific Resources Inc., 838 F.2d 360, 366 (9th Cir. 1988); Int'l Distrib. Ctrs., Inc. v. Walsh Trucking Co., Inc., 812 F.2d 786, 792 (2d Cir. 1987); Energex Lighting Indus., Inc. v. North American Phillips Lighting Corp., 765 F.Supp. 93, 101 (S.D.N.Y. 1991); In re Air Passenger Computer Reservations Systems Antitrust Litigation, 694 F.Supp. 1443, 1460 (C.D.Cal. 1988); Allen-Myland, Inc. v. International Business Machines Corp., 693 F.Supp. 262, 278 (E.D.Pa. 1988); McGaw Personal Communications, Inc. v Pacific Telesis Group, 645 F.Supp. 1166, 1174 (N.D.Cal. 1986).

Further, the Indiana Utility Regulatory Commission relied on ease of entry in its definition of a competitive market: "[W]e find that a market is competitive when the following factors are present: there is entry and exit in the marketplace; mobile capital exists; viable alternatives exist that satisfy the same customer needs; and small changes in price prompt customers to switch to other alternatives." In re Customer-Specific Offerings of Indiana Telephone Companies Pursuant to I.C. § 8-1-2.6, et seq., 107 Pub. Util. Rep. 4th (PUR) 366, 371 (Ind. URC, Oct. 4, 1989).

\textsuperscript{109} Merger Guidelines, supra note 108, at § 3.0.
\textsuperscript{111} See Larson & Schroepfer, supra note 107, at 287 n.38, for examples of market conditions that the courts have considered entry barriers (e.g., the amount of capital necessary to become a competitor in the market, the availability of capital and technological advancements, the number and size of firms already operating in marketplace, the structure and nature of the industry, trade secrets, patents, licenses, the existence of excess capacity by existing sellers, pricing elasticity, the difficulties that buyers may have in changing suppliers, advertising, the level of employee skill required for firm to be in a market successfully, the costs and delays imposed by the regulatory process, insurance costs, lengths of contracts, performance bond requirement, experience requirements and other bid specification requirements).

\textsuperscript{112} See, e.g., Ioannis N. Kessides, Advertising, Sunk Costs, and Barriers to Entry, 68 REV. ECON. & STAT. 84 (1986); John T. Wenders, Excess Capacity as a Barrier to Entry, 19 J. IND. ECON. 14 (1971); William J. Baumol & Robert D. Willig, Fixed Costs, Sunk Costs, Entry Barriers and Sustainability of Monopoly, 96 Q.J. ECON. 405 (1981); Richard Schmalensee, Brand Loyalty and Barriers to Entry, 40 S. ECON. J. 579 (1974); A. Michael Spence, Notes on Advertising, Economies of Scale, and Entry Barriers, 95 Q.J. ECON. 493 (1980); Yale Brozen, Is Advertising a Barrier to Entry?, in ADVERTISING AND SOCIETY 79 (1974); Harold Demsetz, Accounting for Advertising as a Barrier to Entry, 52 J. BUS. 345 (1979); Richard Schmalensee, Economies of Scale and Barriers to Entry, 89 J. POL. ECON. 1228 (1981); Philippe Aghion & Patrick Bolton, Contracts as Barriers to Entry, 77 AM. ECON. REV. 388 (1987).
\textsuperscript{113} See, e.g., Ioannis N. Kessides, Advertising, Sunk Costs, and Barriers to Entry, 68 REV. ECON. & STAT. 84 (1986); John T. Wenders, Excess Capacity as a Barrier to Entry, 19 J. IND. ECON. 14 (1971); William J. Baumol & Robert D. Willig, Fixed Costs, Sunk Costs, Entry Barriers and Sustainability of Monopoly, 96 Q.J. ECON. 405 (1981); Richard Schmalensee, Brand Loyalty and Barriers to Entry, 40 S. ECON. J. 579 (1974); A. Michael Spence, Notes on Advertising, Economies of Scale, and Entry Barriers, 95 Q.J. ECON. 493 (1980); Yale Brozen, Is Advertising a Barrier to Entry?, in ADVERTISING AND SOCIETY 79 (1974); Harold Demsetz, Accounting for Advertising as a Barrier to Entry, 52 J. BUS. 345 (1979); Richard Schmalensee, Economies of Scale and Barriers to Entry, 89 J. POL. ECON. 1228 (1981); Philippe Aghion & Patrick Bolton, Contracts as Barriers to Entry, 77 AM. ECON. REV. 388 (1987).
\textsuperscript{114} Joe S. Bain, Barriers to New Competition (1956).

\textsuperscript{114} George J. Stigler, THE ORGANIZATION OF INDUSTRY 67 (1968).
sists of absolute cost and demand advantages enjoyed by the incumbent firm.116

A more recent and economically refined definition of entry barriers, which extends Stigler’s basis to consider the concept of economic welfare and the effects entry barriers can have on it, is one developed by von Weizsäcker: “A barrier to entry is a cost of producing which must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry and which implies a distortion in the allocation of resources from the social point of view.”117 The von Weizsäcker definition of entry barriers is, essentially, a production cost borne by entrants but not incumbents, which results in social welfare losses, i.e., socially inefficient outcomes. Practically applied, then, this definition indicates that not every requirement of producing, distributing, or marketing a product that imposes differential costs on entrants should be properly considered an entry barrier.118 For example, a firm that develops a cost-reducing innovation not available to entrants may appear to enjoy an entry barrier. Indeed, in the standard Bainsian analysis of entry barriers, it would. Yet because cost reductions can benefit consumer welfare in the form of lower prices, engaging in cost-reducing innovation does not raise entry barriers in the von Weizsäcker framework.119

Von Weizsäcker’s analytic framework is important to competitive standards for the following reasons. First, von Weizsäcker’s rigorous mathematical economics approach showed that barriers to entry, as defined by Stigler, cannot be shown to lead, as a mathematical theorem, to economic inefficiencies under all circumstances. Given this, he suggested two ways of handling the concept of entry barriers: either adhere to the Stiglerian definition and be careful not to draw any welfare and policy conclusions from it, or revise the definition and require the existence of certain inefficiencies as an attribute of entry barriers. Since the first alternative holds little value, his seminal paper handles the second of these alternatives.

Second, using his revised definition of entry barriers, which incorporates welfare effects, von Weizsäcker showed that Bainsian entry barriers do not always conform to his definition. Essentially, the Bainsian and Stiglerian entry barrier definitions assume that entry barriers will lead to economically inefficient markets. Conversely, the definition derived by von Weizsäcker implicitly performs a more penetrating analysis by showing that some economic conditions formerly considered entry barriers, and hence automatically assumed to lead to allocative distortions or other economic inefficiencies, are not always inefficient when welfare effects are examined. The von Weizsäcker definition of entry barriers itself is not perfect,120 but the philosophy behind it—that the social gains from alternative feasible government actions are important to public policy decisions—has important implications for discussing laws governing telecommunications competitive criteria.

2. The Role of Sunk Costs in Modern Conceptual Entry Barrier Analysis

A sunk cost is a cost that is unavoidable in the short or “intermediate” run, even if there is a complete cessation of output.121 Recognizing the importance of sunk costs has great influence on what is and what is not considered an entry barrier. This section discusses the role of sunk costs in the pragmatic use of the entry barrier concept when analyzing market power.

It stands to reason that some production costs imposed on entrants, but not incumbents, are likely to be non-recoverable, market-specific costs that are sunk when incurred. Because the prospective entrant must incur sunk costs to become an established firm, some economists have considered sunk costs as an entry barrier.122 In the analysis by Baumol and Willig, for example, sunk costs are viewed by prospective entrants as incremental to the decision to enter the market. These costs are therefore an incremental cost, with corresponding incremental risk, which must be recovered with post-entry revenues by en-

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119 Id. at 143-44 n.1.
opportunities exist. The incumbent firm does not take these costs into consideration in assessing its prospective business decisions. Sunk costs are also a primary entry barrier in the theory of contestable markets developed by Baumol, Panzar and Willig.

To what extent are sunk costs, which are potentially pervasive in a network industry like telecommunications, relevant to the question of ease of entry? This Article considers sunk costs to be relevant to the question of entry barriers, but does not consider just any non-zero amount of sunk costs to be an entry barrier, as the pure theory of costless entry put forth by Baumol, Panzar and Willig would require. Instead, if entry requires the incurrence of capital costs, and a "high" proportion of these are sunk costs for entrants, then entry barriers exist. This merging of the concepts of sunk costs and entry barriers is not inconsistent with the von Weizsäcker definition of entry barriers.

An investigator must ask: Are prospective suppliers for a given telecommunications market required to incur significant sunk costs of entry? If capital costs are required for entry, and a "high" proportion of them are expected to be sunk, what implications should such conditions have for public policy? These questions are basic to an examination of entry barriers for determining if a given market is subject to significant competition. This is because once sunk investment has been incurred, it has zero opportunity cost, and hence is not part of the costs of the firm's alternatives, since such investment cannot be put to alternative use. The high proportions of sunk costs are no longer part of the forward-looking expenses of the incumbent firm, whereas the prospective entrant, in deciding whether to enter the market, must consider it an outlay. Sunk costs are costs that cannot be recovered if entry fails. For this reason, high proportions of sunk costs can create significant asymmetries between incumbent firms and new entrants, thereby rendering the market noncompetitive.

Hence, if new entrants must incur "large" proportions of sunk costs to enter the market, then a continuation of regulation may be required. The issue is whether there is an expectation of market power for one or more firms in the prospective market due to these proportions of sunk costs.

3. The Role of Economies of Scale and Scope in Entry Barrier Analysis

Since many telecommunications services are offered via a network involving common plant and investment, scope economies will exist for many of the sets of services offered by LECs. One could also expect to see service-specific scale economies, though their existence would not necessarily be caused by the existence of common plant. This means that LECs may be extremely cost efficient in serving various markets, which in the long run could stimulate infrastructure development, encourage the diffusion of advanced technologies, and benefit consumers with low prices.

The key question is: Are scale and scope economies entry barriers that can harm competition? Scale economies are one of the classic Bainsian entry barriers, and though Bain did not discuss scope economies specifically, they would be an entry barrier in the Bainsian tradition. In contrast, when one adopts the more advanced entry barrier definition of von Weizsäcker and recognizes the true role of sunk costs, scale and scope economies in and of themselves are not entry barriers. Under some circumstances, scale and scope economies may exacerbate sunk costs as entry barriers. Productive efficiency borne of scope economies does not constitute an entry barrier even if such efficiencies make it challenging for en-


BAUMOL, PANZAR & WILLIG, supra note 120, at 290-92. Stiglerian entry barriers are inconsistent with a perfectly contestable market.


The concept of scope economies was first introduced to the literature in 1975 by John C. Panzar and Robert D. Willig, long after Professor Bain's death. See Panzar, Technological Determinants, supra note 24, at 16 n.11.

122 Contestable markets theory suggests that scale economies and fixed costs are not barriers to entry. According to the theory, the productive technology is available to potential entrants, a situation that exists in many telecommunications markets. In the absence of sunk costs, firms may enter markets in which profit opportunities exist. See generally BAUMOL, PANZAR & WILLIG, supra note 120, at 282-301; SPULBER, supra note 21, at 40-42. However, as Shepherd has pointed out: virtually all production requires specific assets which cannot be transferred or sold costlessly. This applies to physical equipment, advertising, R & D, expert skills, and the other commitments needed to establish entry. Fixed and sunk costs commonly overlap and are sizeable, as Spence (1983) and others note. Zero sunk cost is therefore a doubtful, counterfactual assumption for a general theory.
trants to compete with incumbents.\textsuperscript{126}

Again, scale or scope economies in and of themselves are not entry barriers. This conclusion can be further drawn out by considering the minimum conditions necessary for entry. Minimum viable scale ("MVS") is the amount of total sales at a given price that a new entrant would need, at a minimum, to post profits large enough to make entry viable. Economic cost conditions like scale and scope economies are often considered entry barriers only if MVS is high. Thus, it is high MVS combined with scale or scope economies and sunk costs that is often contended to be an entry barrier. While scale and scope economies, in conjunction with high MVS and the requirement that new entrants incur substantial portions of sunk costs, may be a formidable barrier to entry, it is the sunk costs themselves that are the entry barrier. The scale and scope economies merely exacerbate the sunk cost requirement and, in the absence of sunk costs, would be irrelevant to the entry barrier question, which itself would be irrelevant if it does nothing to allow firms to create or maintain market power.\textsuperscript{127}

4. Summary and Recommendations on Entry Barriers

The determination of entry barriers is not a hard science. Perhaps the advice of Viscusi, Vernon, and Harrington explains this economic fact of life best:

[S]ome economists and antitrust lawyers throw the term entry barrier around like there is one accepted and meaningful definition when there is not. The best advice we can offer is to perform a two-stage inquiry. In the first stage, carefully examine the assumptions underlying the particular argument that something is a barrier. Determine whether it is indeed true that existing firms can maintain price above [economic] cost while deterring entry. In the second stage, consider whether there is a policy that could 'remove' the barrier and improve social welfare.\textsuperscript{128}

Despite the fact that entry barrier analysis is not an exact science, a reliance on the economics literature still offers several practical guideposts for the use, and avoidance of misuse, of the entry barrier criterion when demonstrating compliance with telecommunications law governing competitive standards. First, scale and scope economies need not be entry barriers, and in fact, in and of themselves should not be considered as such. As this Article points out, the underlying entry barrier is the requirement that entrants incur significant portions of sunk costs. While the existence of scale and scope economies may exacerbate the role that sunk costs play as an entry barrier (by making MVS high), it is the sunk costs that are the entry barriers, not the scale or scope economies.\textsuperscript{129}

Second, perhaps the worst thing to require as a demonstration of compliance is some sort of entry barrier "laundry list" that contains items indiscriminately chosen from the Bainsian, Stiglerian and von Weizsäcker analyses of entry barriers. Not only would such a list contain items that conflict with each other, it would be too onerous for practical use in administrative law, and would ignore many of the breakthroughs that have been experienced in this area. In other words, it does not enhance a complete and cautious analysis to combine several different schools of thought on entry barriers. The more narrow von Weizsäcker view of entry barriers, combined with a recognition of the role of sunk costs, is most in keeping with the goals of public utility regulation in general.

Third, several economic conditions anecdotally considered to be "entry barriers" are not entry barriers conforming to the modern view of this topic. As previously explained, "high" capital costs, or fixed costs, are not necessarily entry barriers, and it serves no purpose to automatically and seriously consider these as entry barriers. Similarly, auction processes, which have been proposed for allocation of the radio spectrum, are not entry barriers simply because some firms have more available cash reserves than others. And product differentiation is not an entry barrier unless it requires new entrants to incur significant portions of sunk costs, and these cost differentials between entrant and incumbent lead to welfare losses. This is not likely to be the case, as all firms newly entering a market must expend resources to establish a market presence. The fact that they must do this,

\textsuperscript{126} Even if incumbent firms enjoyed absolute cost advantages that precluded entry, regulation is not justified if the cost advantage is due to productive efficiency. \textit{Spulber, supra} note 21, at 42.

\textsuperscript{127} Interestingly, the validity of sunk costs (or large proportions thereof) as an entry barrier is what makes Bainsian entry barriers like scale economies and scope economies a moot issue. If MVS is high due to the existence of scale or scope economies, entry barriers may be present if entrants must incur significant amounts of sunk costs to surmount the high MVS. It is the sunk costs that exacerbate this situation, not the scale or scope economies (or resulting high MVS).

\textsuperscript{128} \textit{Viscusi, Vernon & Harrington, supra} note 119, at 163.

\textsuperscript{129} \textit{Spulber, supra} note 21, at 41.
and that other firms are already operating in the market, does not comprise an entry barrier.

VII. CONSIDERATIONS OF RELATIVE FIRM SIZE

Several state statutes have employed the criterion of relative size considerations, e.g., Michigan, Minnesota, and Washington. The FCC also employed this criterion in its LD Competition Order. This criterion could serve as an ancillary element to more substantive criteria, but as a stand-alone criterion it is generally not useful. The financial or technical resources of competitors relative to those of incumbent firms are of very limited value for making a determination of whether a market is competitive. The economic reasoning used to arrive at this conclusion is essentially the same as that employed in concluding “high” capital costs are not entry barriers.

Even if this criterion was meaningful, it is difficult to compare most firms with a large multiproduct firm, like a telephone company, in a meaningful way. The extent of common facilities used to provide diverse telecommunications services makes this quite a challenge, so any results garnered in support of this must be tempered with judgment. For example, suppose a LEC was to compete with a firm that provides only data services. The LEC’s analog private line and packet switched services use the public switched network, which is also used to provide a great many other services. How does one compare the resources of the LEC with such competitors? Does the use of the public switched network by the LEC mean that it impedes what otherwise would have been a competitive market? The answer is No, and it points out one of the dangerous aspects of this criterion, i.e., a comparison of a LEC’s resources with those of an entrant that is inefficient for lack of scope economies and cannot compete on the merits with the LEC via price.

It is acknowledged that market share should be examined in determining market competitiveness issues, but as the discussion in Section V(C) of this Article has already indicated, it is not a stand-alone indicator of market power. Recall that market power is directly related to market shares, all other factors remaining constant, but this simple relationship does not make market share a reliable indicator of market power. If it is to be used, it must be qualified using other relevant data on the market in question, such as ease of entry.130 Because of the effects of market supply elasticity and the price elasticity of demand, both of which are inversely related to market power, a “low” market share is indicative of a lack of market power, but a “high” market share does not necessarily indicate that market power exists.

VIII. SUMMARY AND PARTING COMMENTS

This Article serves as an economic guide to compliance with competitive standards in telecommunications law. Some of the principles involved in demonstrating that a given market is subject to significant competition probably seem like complicated, jargon-laden economic theories to attorneys, public utility commissioners, hearing examiners, or administrative law judges. This Article is intended to clarify some of the underlying economic issues and topics, such as market share, market power, entry barriers, and demand elasticities.

Despite the economically sound competitive standards we now observe in several state statutes and in the FCC’s regulation of telecommunications, the value of a pervasive, uniform set of standards of competition for future telecommunications policy based on regulatory and antitrust economics still cannot be possibly overstated. Competitive standards are an extremely important component of future policies that will shape and transform the telecommunications industry. For example, competitive standards are crucial to the transition from the asymmetric regulation to the deregulation of telecommunications markets where appropriate. They will be no less important to the proper evaluation of policies in which regulators mandate competitive access to network facilities, such as collocation, expanded interconnection, and network unbundling in both state and federal regulation. Sound competitive standards will also be needed in conjunction with existing and future state laws that classify services as “competitive” and “noncompetitive,” or that proscribe cross-subsidy flows from the “noncompetitive” service category to the other(s).

In showing that a regulated firm operates in a competitive market, should the magnum of proof differ from merger analysis or antitrust cases in which a defendant firm has been accused of monopolizing a market? The answer is Yes. The antitrust case law and the Merger Guidelines offer a great deal of economic wisdom regarding how one should analyze a market to see if it is competitive. It is not wise, how-

130 See supra note 108 and accompanying text.
ever, to graft existing antitrust standards onto telecommunications law, even though merger analysis, antitrust law, and competitive standards for telecommunications public policy all should be based on the same economic principles.

The penalty of making erroneous conclusions in merger analysis is that two firms, neither of which may have independent market power, will merge to form a single firm that does. Beyond this point, the remedy lies in antitrust court if a violation of the law takes place as a result. The penalty for making erroneous conclusions in an antitrust case is that a defendant that is guilty of harming the competitive process and inflicting antitrust damages upon its rivals will not be made to pay for his crime. Further, the market in question will remain monopolized until the next antitrust suit is filed. If, however, a firm is to make a transition from a monopoly regime to a competitive market structure, the magnum of proof should be less onerous because the public interest could be harmed if policy does not err on the side of a finding of competition. The reason is that if a regulated firm is granted reduced regulatory oversight via banded pricing, then it most likely will seek to lower its prices if the market is competitive. This, of course, benefits the public. If, on the other hand, a regulated firm is granted reduced regulatory oversight, and the market is not truly competitive, the only way it can better its position is to raise prices of services for which it has market power. This is not likely to be permitted under reduced regulatory oversight, and would not go undetected even if it were.

How does a regulatory agency know that a given market is competitive? First, a market need not conform to the letter of the theoretical properties of a contestable market—which has the perfectly competitive market concept embraced within it. While the contestable market model of the competitive process would be an excellent basis for demonstrations of competition in the face of perfect data, its underlying assumptions have the potential to be too restrictive for pragmatic use in administrative law proceedings. The compromise of workable competition is a better maxim on which to base determinations of competition for public policy. Such a compromise does not open the door to behaviors of regulated firms that may be inimical to the public interest. As such, two determinants are of primary importance: (1) the existence of functionally equivalent substitutes at prices customers consider comparable, and (2) ease of entry. The lower the barriers to entry, and the shorter the lags of new entry, the less market power existing firms will have. When the supply capacity of existing firms or potential entrants is highly elastic, market power is muted and existing market share does not signify market power. Stated another way, a market can be considered competitive if the level of competition from firms that produce reasonably close substitutes is sufficient to rule out the exercise of significant market power. And a market can be considered competitive if the level of competition from potential entrants is sufficient to rule out the exercise of significant market power.

As a guide to how sound, competitive standards should be written into state law, the Oregon statute (as well as several others similar to it) is a virtual model of economically responsible criteria. Similarly, the FCC's *LD Competition Order* serves as a model for the interstate jurisdiction. As a rough checklist of items useful in demonstrating that a market is workably competitive, the following pragmatic criteria should be given serious consideration: lack of barriers to entry that lead to deviations from the competitive outcome and involve welfare losses to customers; a proliferation of alternative suppliers with products or services fulfilling similar customer needs; existing competing firms with sufficient supply capacity to serve significant portions of the market, i.e., “low” shares of market capacity for the incumbent LEC; evidence of rivalrous price competition among the firms serving the marketplace; and evidence that competitors are actively seeking customers via advertising or promotions. Clearly, other determinants could go on this list as well.

Once uniform competitive standards are in place in telecommunications law, the key to proper compliance is in the use of sound economic analysis. Without sound economic analysis, good telecommunications law in the form of state statutes or FCC orders can easily become bad public policy.