SUBSTITUTING COMPETITION FOR REGULATION

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I. Introduction

Economic regulation of a market usually owes its existence to perceptions that without governmental intervention, that market will not produce desirable economic results.[1] The main markets served by electric utilities, gas pipelines, gas distributors and telephone companies were long understood to be "natural monopolies." Absent regulation, sellers in these markets, it was believed, would be able to impose prices substantially in excess of costs while excluding rivals.[2]

In recent years, the concept of natural monopoly and the efficacy of regulation in dealing with it have been questioned. Increasingly, it has been argued that in many presently regulated markets, actual or potential competition would be sufficient to protect consumers without governmental intervention.[3] These arguments often result in proposals that conventional regulation be replaced either by full deregulation or by some "light-handed" form of less intrusive governmental control. Of particular interest is the approach adopted by the Federal Energy Regulatory Commission (FERC or the Commission) of lubricating the regulatory process by applying conventional regulation to noncompetitive markets and light-handed regulation to markets subject to competition.

Efforts by regulatory agencies to substitute market-based or other light-handed regulation for conventional regulation have raised the question of whether it is legal to do so and, if so, under what circumstances. In this paper,

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1. The need to control market power is the traditional "textbook" reason typically used to justify government intervention. In practice, a variety of other reasons (such as control of "windfall" profits, preventing "excessive competition and many others) have been put forth to justify governmental regulation. *Federal Regulation: Roads to Reform*, 1979 A.B.A. Commission on L. & Econ Rep. 26-31. However, increasingly, regulation and deregulation have been judged by efficiency standards. Thus, this paper is limited to the problem of controlling monopolistic exercises of market power that might reduce economic efficiency.

2. 1 A. Kahn, The Economics of Regulation: Principles and Institutions 11-31 (1970).

3. D. Spulber, Regulation and Markets 12-17 (1989).

we have not addressed the important question of under what circumstances market-based or light-handed regulation is legal. The question needs to be addressed by lawyers with an understanding of the law as it has applied to regulated industries.

The FERC has taken the position that, if it can be established that a firm over which it has jurisdiction operates in a competitive market for a particular service, then the FERC can practice "light-handed regulation" over that service and still comply with the just and reasonable standard, consistent with its statutory mandates. With specific respect to the electric power, natural gas pipelines, and oil pipeline industries, the FERC has emphasized its ability and desire to take the extent and nature of competition into account when it makes a determination about whether a regulated price is just and reasonable. The courts have yet to rule on the legal validity of the commission's regulatory theory. Clearly, the issue is controversial, with a history extending back at least as far as the *Permian Basin Area Rate Cases*[4] decisions and, more recently, *Farmers Union Central Exchange* (*Farmers Union*).[5]

The FERC's interpretation of *Farmers Union* has considerable appeal to economists, though it may or may not be soundly based in legal[6] doctrine and precedents. For the purpose of this article, we assume that the current doctrine will survive or at least be in effect long enough to require energy lawyers, regulators, and analysts to address the question of how much competition is sufficient. The focus of this paper is how the question of the adequacy of competition to protect the consumer interest should be analyzed.

If light-handed regulation is legal in a given instance, there remains the question of whether it will be effective. In particular, how are policymakers to distinguish situations in which competition is "sufficient" from those in which it is "inadequate"? This paper considers the problem of evaluating the sufficiency of competition for light-handed regulation. After discussing analytical approaches for assessing the extent of competition that have been adapted from the U.S. Department of Justice's (DOJ) 1984 *Merger Guidelines (Guidelines)*,[7] we suggest an alternative approach specifically focused on the special problem of evaluating whether competition is sufficient to permit light-handed regulation. This approach takes the competitive effect of both existing and potential competitors into account.

A. Competition Versus Regulation

It has long been a cliche that the goal of economic regulation is to provide a substitute for the results of competition. However, competition and economic regulation, as conventionally applied, cannot produce the same results, particularly with respect to the distribution of "rents" (returns to scarcity), the incidence of risk, and the distribution of profits.

In competitive markets, rents for scarce resources are captured by produ-

4. Permian Basin Area Rate Cases, 390 U.S. 747 (1968).
5. Farmers Union Cent. Exch. v. FERC, 734 F.2d 1486 (1984).
6. A companion article examines this issue.
7. *U.S. Department of Justice Merger Guidelines*, 4 Trade Reg. Rep. (CCH) ¶ 13,103 (1984) [hereinafter *Guidelines*].

cers owning the scarce resources, whereas economic regulation limits the utility to revenues equal to its cost of service, usually based on historical cost, which is defined to exclude all scarcity rents. Instead of rationing the scarce resource that would receive a rent in the competitive market, the conventionally regulated price is usually different from that which would prevail under competition. The effect of the treatment of rent is to reduce the regulated price, which results sometimes in a lower price than would prevail in a competitive market. Sometimes, as recent experiences in natural gas and bulk electric power markets demonstrate, the unregulated price may be lower than the regulated price.

Competition and economic regulation treat profits differently. In competition, firms are guided by the incentive to make high profits, which the astute and fortunate firms make, just as the less astute and unfortunate experience losses. The incidence of high returns and losses among competitors contrasts with profits under the regime of regulation, which allows a fair rate of return, based on the cost of capital, to utility investments prudently made. Unlike the firm in a competitive market, the regulated utility, though denied high profits, is buffered from losses as long as its decisions are deemed "prudent."

Economic regulation has generally been limited to a few industries that are either natural monopolies or subject to other kinds of market failure.[8] This practice reflects a faith in the superiority of free, unregulated, competitive markets wherever competition is adjudged feasible and effective. This faith receives support from the teachings of economics as well as from practical experience with economic regulation. Competitive markets are economically efficient. Prices reflect economic costs and guide buyers' choices so that resources are allocated to maximize consumer welfare. Equally important, the rewards and punishments which occur in competition, but not under regulation, lead to stronger incentives for competitors to reduce costs, make correct decisions and innovate. Finally, competitive markets are flexible and responsive to changing conditions; the invisible hand of the marketplace leads the market to adjust to minimize prolonged shortages or excesses. Competition automatically regulates profits, preventing monopoly returns, yet it rewards the efficient and penalizes the inefficient. Thus, competition achieves regulation's goal of preventing monopoly profits, but, unlike regulation, competition provides a strong profit incentive for efficiency and progress. Because of these virtues, competition is widely viewed as superior to economic regulation in those markets in which competition is workable.[9]

In recent years there has been a movement to introduce the process of competition into regulated industries to replace the process of conventional

8. *See supra* notes 1-3.

9. Workable competition is a practically achievable condition describing any actual market achieving a reasonable approximation to competitive results. Competition is workable if it provides alternatives to the offerings of any one competitor and if these alternative offerings act as a disciplinary force to prevent the exercise of undue market power. That is, the alternatives must provide effective constraints on the seller's ability to charge supra-competitive prices or offer an inferior service. For a discussion of the concept of workable competition, *see* F. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 41-44 (2d ed. 1980).

regulation in order to achieve competitive results. There has also been a movement in some areas to integrate competitive considerations explicitly with the regulatory process. This is leading some regulatory jurisdictions to variations on the conventional regulatory process such as "incentive regulation," "rate caps," "yardstick regulation," and other innovations.

In an unregulated market or a deregulated market, prices are determined by the play of supply and demand forces unconstrained by governmental intervention. The sellers charge what the competitive process will allow. If competition is effective, in the long run, the typical firm should recover its investment and a fair return thereon. However, return is not guaranteed. A firm may, as a result of skill or good luck, earn a substantial amount on the original cost of the assets involved. Conversely, because of incorrect decisions or poor fortune, the firm may fail to recover its investment. In an industry regulated by a conventional rate-of-return type of process, prices are based on the regulated firm's costs. A rate base of prudent investments is established and the rate of return necessary to compensate investors is determined and applied to this rate base. This rate base is added to the depreciation and other prudent expenses of the regulated firm to determine the revenue requirement. Rates or prices are designed to cover this cost of service.

Light-handed regulation is a blend of these two basic price-determining processes. Regulators retain jurisdiction over the regulated firm and may set limits or constraints, such as "price-caps," "benchmarks," and so forth; there may be oversight of affiliate relationships, price discrimination, customer complaints or other issues. However, subject to compliance with any ceilings or other constraints, under light-handed regulation, the firm is free to set such prices as will be permitted by competitive supply and demand forces.

Another manifestation of this regulatory development is the attempt by the FERC to bifurcate its regulatory process, applying "conventional" regulation where competitive forces are found by the Commission to be inadequate to protect the public interest, and applying "light-handed" regulation where competition has been found to be adequate. This bifurcated approach is the Commission's principal move toward substituting competitive processes for regulation. Its successful application requires an effective method or approach for determining whether there is sufficient competition for light-handed regulation to be effective. That is, competition must be sufficient to prevent the regulated firm from charging excessive prices or otherwise performing noncompetitively.

II. FERC's Move to Light-Handed Regulation

The commission has clearly stated its policy that when competition effectively constrains rates, it will seek to replace intensive rate reviews based on conventional cost-of-service analysis with an analysis of the competitive process.[10] Other regulatory commissions, such as the Federal Communications Commission, have also been exploring regulatory schemes based on the

10. This thrust has been championed by the Commission's former Chairman, Martha O. Hesse. For her general views with respect to regulation of the natural gas and electricity industries, *see* Hesse, *A New*

achievement of just and reasonable rates with light-handed regulation when market competition is present.

An example of the Commission's policy with respect to natural gas is its authorization of Transwestern Pipeline Company's (Transwestern's) proposed gas inventory charge (GIC).[11] The FERC concluded that the southern California gas market was sufficiently competitive so that the rates charged by Transwestern will be just and reasonable in compliance with the Natural Gas Act.

Another example of the FERC's use of competition as a basis of just and reasonable rates in the natural gas industry is found in its Notice of Proposed Rulemaking (NOPR) regarding gas brokering. The FERC concluded there that "competitive alternatives provide the most effective limitations on the use of market power and undue discrimination."

The FERC has also proposed a competitive standard for the pricing of electricity. In the Commission's NOPR,[12] the FERC observed that since strict regulation of entities that "do not have significant market power" is "unlikely to provide significant public benefits,"[13] "rates charged by IPPs for wholesale sales should be freed from traditional embedded cost-of-service regulation. . ."[14]

For the concept of light-handed regulation to be acceptable, regulators must have a sound and defensible specification of the criteria that indicate competition will protect the public interest without direct assistance from regulators. We now address the problem of making such a determination.

III. Evaluating Competition

Markets potentially subject to light-handed regulation differ from markets in the unregulated economy in that they have been conditioned by years of regulation. Regulation has typically restricted entry, impeded price competition and regulated conditions of service without seeking to maximize competition. Light-handed regulation introduces a changed situation: a newly liberated market in an industry setting governed by new regulatory ground rules. The issue is how to evaluate the impact of competitive charges and whether they will likely protect consumers from "gouging" by suppliers.

A. *The Appropriate Competitive Threshold*

The relevant threshold for determining how much competition is "enough" in markets considered for deregulation or light-handed regulation is a standard similar to the one used to determine whether a monopoly exists and would have to be remedied under the Sherman Act. This standard is whether

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Era in Energy Regulation, PUB. UTIL. FORT. 18 (1989). Her pro-competitive views on oil pipelines were spelled out in a speech on April 26, 1988, to the API Annual Pipeline Conference in Houston, Texas.

11. Transwestern Pipeline Co., 43 F.E.R.C. ¶ 61,240 (1988).

12. Notice of Proposed Rulemaking [hereinafter NOPR], *Regulations Governing Independent Power Producers*, IV F.E.R.C Stats. & Regs. ¶ 32,456, 53 Fed. Reg. 9,327 (1988).

13. IV F.E.R.C. Stats. & Regs. ¶ 32,456, at 32,125.

14. *Id.*

the firm under consideration for light-handed regulation would have "dominance" of a relevant market.

In the context of potential deregulation or light-handed regulation, the question to be asked is whether, within a reasonable short period under light-handed regulation, there will emerge sufficient competition to prevent the exercise of substantial market power. Market power is the ability of a firm to profit by setting prices above the competitive level. It is not unusual for firms in the unregulated sectors of the economy to possess and exercise some market power. The issue is not whether some market power exists, but whether the exercise of market power will produce prices that are unacceptably high relative to the costs of production. In the natural monopoly industries, economic regulation was introduced to restrain market power that, it was believed, would result in prices far above the competitive level. It is important to realize that the relevant threshold of competition for light-handed regulation is one of achieving not some ideal textbook price optimality, but, rather, enough rivalry among firms to prevent dominance of the market (i.e., substantial market power) by the firm subject to light-handed regulation.

In our economy, competition rather than regulation is relied on to regulate all industries except the few that are viewed as likely to result in serious market failure. Highly concentrated industries are found in many areas of the economy. Such industries are acknowledged to be "imperfect" in the sense that economic textbooks use this phrase, but they are not viewed as demanding the type of regulatory intervention applied to public utilities. These markets function without any public impetus for subjecting them to regulation of the kinds imposed on pipelines and electric and gas utilities. Industries in the economy that are highly concentrated and function on an unregulated business-as-usual basis include boilers, automobiles, flat glass, cereal breakfast foods, turbines and turbine generators, electric lamps, refrigerators and freezers, cigarettes, primary aluminum, copper, tires, television tubes and large aircraft.[15] Concentration in all of these industries far exceeds the concentration threshold at which DOJ would likely challenge a merger; yet society relies on competition and the antitrust laws to govern them, rather than resorting to economic regulation.

These concentrated industries work well enough that they remain unregulated, subject to occasional antitrust intervention, and there is no strong public support for regulating them. Unacceptable monopoly pricing is, in general, avoided because some rivalry exists. At the same time, unbridled price-cutting is not common in most manufacturing and mining industries and is particularly unlikely in concentrated industries. Throughout most of the unregulated economy, however, where buyers have alternatives, rivalry is evident and the results of the rivalry are generally deemed satisfactory from the viewpoint of consumers. The task of assessing competition under light-handed regulation is to discover whether an elementary level of rivalry can be expected to keep prices sufficiently close to the competitive level so that the market can be said

15. *See* SCHERER, *supra* note 9 at 62. *See also* U.S. Dep't of Commerce Bureau of Census, *Census of Manufacturers, Concentration Ratios in Manufacturing*, 1982.

to fall into the large category of situations where competition is deemed workable in that no firm will likely be in a dominant position.

Put in legal terms, the appropriate competitive standard is not that appropriate for mergers but, rather, the standard appropriate for Sherman Act section 2 monopoly cases. Firms found to be legal monopolies under section 2 of the Sherman Act dominate their markets; they have substantial market power and typically have market shares amounting to well over half the relevant market. In contrast, the prevention of anticompetitive mergers under section 7 of the Clayton Act has the objective of preserving existing competition. Mergers that would substantially lessen competition are prevented to avoid incipient monopoly even though in many instances neither firm is dominant pre-merger and the merged firm would not be dominant immediately after the merger.

B. Light-Handed Regulation Introduces Change

In seeking to determine whether sufficient rivalry will exist, it is necessary to keep in mind that the prospective market under light-handed regulation will likely be different from the present regulated market. For example, competition in firm natural gas sales has historically been limited to rivalry among gas pipelines because of their control over firm gas transportation. If the introduction of light-handed regulation of entities providing firm gas service by means of GICs opens up access to firm transportation by producers, marketers and distributors on terms that allow them to compete, the number of competitors would in many cases be greatly increased above the historical level.

Since regulation can change the market, the regulatory ground rules adopted for the light-handed regime can be developed so as to maximize feasible competition. Conversely, if this is not done, the regulatory rules may so limit competition as to make it ineffective as a protector of the public. As in the case of access to firm gas transportation, one set of regulatory ground rules may open up previously protected markets to new entry. In addition, removing price regulation in the light-handed area and providing greater flexibility in service commitments can provide incentives to compete that did not exist under conventional regulation. Conversely, another set of ground rules may have no positive impact on the extent of competition and could, possibly, impede competition.

The question, then, in most regulated markets is not how to measure the *existing* degree of competition; rather, it is how to determine whether sufficient competition will exist in the *changed* market *after* deregulation or light-handed regulation has been imposed by means of a new set of laws or regulations. To make the critical determination, we must project a future world by considering the economics of competition. In particular, we must consider the factors that determine competition, particularly in markets that are near the threshold at which competition may or may not be adequate to permit deregulation or light-handed regulation to replace competition.

C. *Factors Affecting Competition*

The art of evaluating competition is imperfect and uncertain. Economists understand that certain major factors — principally market concentration, entry conditions and factors encouraging or discouraging collusion — affect competition; but the forces determining competition are much too complex to be fully explained by the economist's models and rules of thumb.

Happily, a refined or complex analysis is not called for to deal with the question before us. Fortunately, out analytical problem is the essentially simple one of determining if rivalry will exist under a specified set of legal or regulatory guidelines. In so doing, we must necessarily work with concepts and information that are inherently crude. The appropriate approach, therefore, is pragmatic: since there is no general economic theory to predict competition accurately and reliably, practitioners in the applied economics of competition make an assessment of competition based on judgments about those factors.

The overall framework used by economists features analysis of the relationships among stable or slowly changing features of the market (market structure), the conduct (behavior) of firms in the market and the results of the market (performance).[16] Figure 1 sketches this framework in the form of two models of competition often used by economists to evaluate competition. The model at the left was the prevailing approach during the 1950s and 1960s and into the 1970s. It also lies behind the DOJ *Guidelines*. In this model, there is a one-way causal flow: supply and demand conditions determine market structure, which determines conduct, which determines performance. As economists have improved their understanding of the theory and results of competition, they have increasingly recognized that the direction of influence is not all one way. For example, Fisher, McGowan and Greenwood have explained that

> . . . there are circumstances in which some aspects of market structure, at least, cannot be treated as exogenous — taken as given for the analysis of competition. Particularly when technological change is important, certain aspects of market structure will be endogenous — themselves produced by the workings of the competitive (or noncompetitive) process. In innovative competition, one cannot understand the significance of a large market share without understanding how that share came to be and how it is maintained. Similarly, in such circumstances, the number and identity of firms in the market are not immutably given but are determined by the competitive process itself. One must understand that process as a dynamic whole rather than as a static situation.[17]

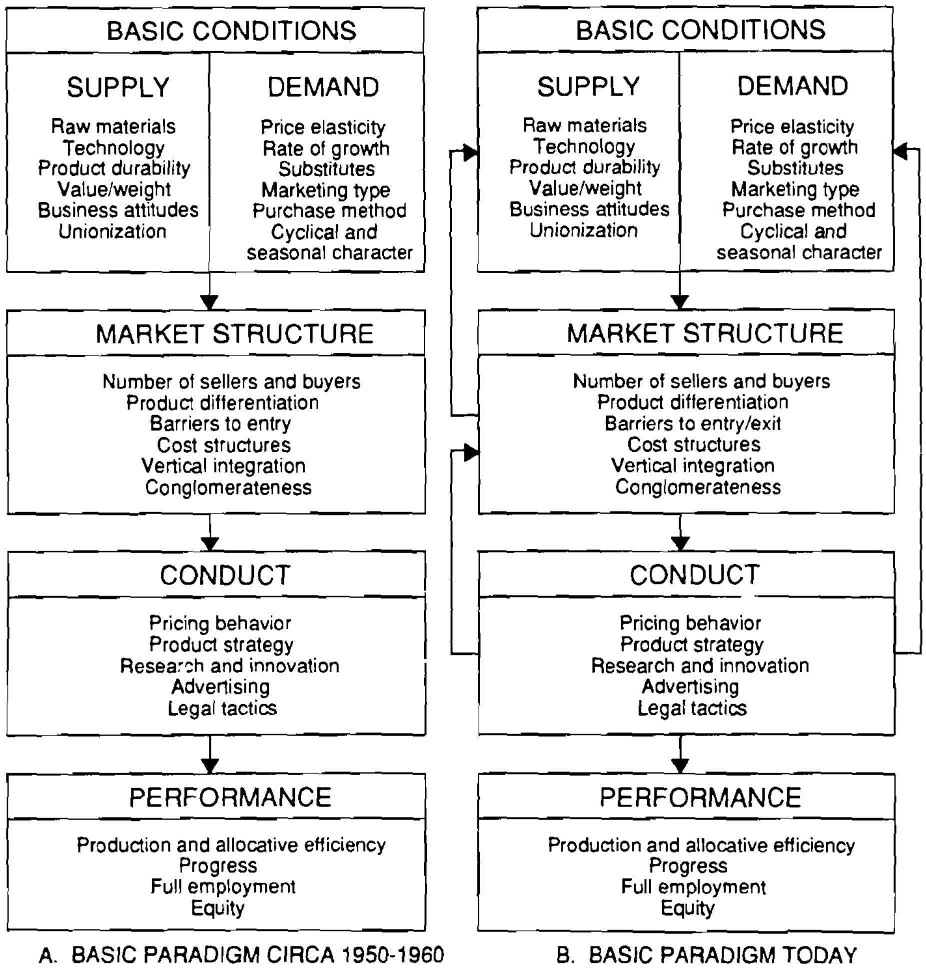
Despite the recognition of feedback in practice, economists seldom try to estimate these quantitatively in analysis of competition. Rather, the usual

16. C. KAYSEN & D. TURNER, ANTITRUST POLICY 59-99 (1959). For discussion of the structure-conduct-performance paradigm *see* SCHERER, *supra* note 9 at chs. 1 & 4.

17. F. FISHER, J. MCGOWAN & J. GREENWOOD, FOLDED, SPINDLED AND MUTILATED: ECONOMIC ANALYSIS AND U.S. v. IBM 40 (1983). The concept that the structure-conduct-performance paradigm is not unidirectional is not new. In the 1960s, Almarin Phillips was pointing out important feedback relationships. *See* MARKET STRUCTURE, ORGANIZATION AND PERFORMANCE (1962); *A Theory of Interfirm Organization*, 64 Q. J. ECON. 602-13 (1960). This view did not, however, gain popularity until the 1970s.

Figure 1

MODELS OF COMPETITION



SOURCE: Adapted from F. SCHERER, *Industrial Market Structure and Economic Performance*.

approach is to analyze separately structure, conduct, and performance.[18] Increasingly, as will be discussed later, structure is being viewed as a screening criterion to select those situations in which analysis of conduct and performance would be merited.

There is a gap between current economic thinking about the relationship of market structure and competitive behavior and performance and legal practice. This gap was forcefully emphasized in a recent collection of empirical measurements of market power in various industries. Professors Scheffman and Spiller referred to the structure-conduct-performance paradigm as "now discredited."[19] They stated:

> Perhaps the most important public policy implication of the modern theory of industrial organization is that firm and industry structural characteristics (for example, market shares, concentration, entry conditions) can at best be viewed as necessary conditions for the existence of market power. The antitrust authorities and the courts, on the other hand, continue to rely on these structural parameters as sufficient to conclude the existence of market power.[20]

Scheffman and Spiller attribute the popularity among judges and enforcement agencies of what they believe to be passé economics to several factors. These include the ease of implementing a structural approach, and the lag in incorporating the "new learning" into legal thought, particularly when the older approach is imbodied in case precedent.[21]

Despite the prevalence of the structuralist view in legal circles, a recent report of the American Bar Association Section of Antitrust Law Task Force points out that courts are increasingly incorporating current economic thought on market power (the "new learning") into antitrust jurisprudence and, therefore, rejecting or modifying the older approach. The ABA report summarizes the current situation as follows:

> [T]he "structuralists" tried to use antitrust both to attack those market conditions and practices that they believed facilitated coordination and to protect those market conditions that they believed would encourage "cheating."
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> . . . .
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> The views of the structuralists were broadly challenged by the "new economic learning," which gained favor in the mid-1970s and 1980s (promoted primarily by the "Chicago School" of economic thought). The new learning posits that most markets are naturally competitive and that industrial concentration is not the prime determinant of whether a particular market is competitive. In the view of the new learning, competition is considered a robust phenomenon: entry is rarely barred, except by government action. Economics of scale and absolute capital expenditure requirements are dismissed as a burden to incumbents and entrants alike and, in any event, do not usually reflect market performance. Moreover, high levels of concentration are thought to be needed before the opportunities for collusion are realistically enhanced. And, even without antitrust enforcement, cartel-like activity is believed generally to break down quickly

18. *See* HAY, *The Interaction of Market Structure and Conduct,* THE ECONOMICS OF MARKET DOMINANCE 105-28 (D. Hay & J. Vickers eds. 1987).

19. Scheffman & Spiller, *Introduction: Empirical Approaches to Market Power,* 32 J.L. & ECON. S3 (1989).

20. *Id.*

21. *Id.*

because of new entry.[22]

In appraising competition in order to make judgments about light-handed regulation, it is important to be alert for feedbacks between market conduct induced by changing regulatory ground rules. Adherence to the old "no feedback" model of the 1950s runs the danger of misreading the potential for competition in specific situations where light-handed regulation is applied. Operationally, this means relying not on a few structural measures, such as market shares, or concentration to evaluate the adequacy of competition. Rather, what is implied is a broad look at the likely *future* structure, conduct and performance of the emerging market.

D. *Market Definition*

To assess competition, the first task — generally, and as specified in the *Guidelines* — is to identify and define the market: the product and the geographic area within which competition must occur. The art of identifying a market is a matter of identifying the close substitutes for the offerings of the pipeline, independent power producer (IPP) or other firm that is under consideration for light-handed regulation. It is not always obvious where to draw market boundaries. Theoretically, one market is separated from other markets by gaps in the chain of potential substitutes; but, in actual situations, the set of substitutes is often more a continuum. Market boundaries are often inherently uncertain and invite disagreement, despite the careful instructions of the *Guidelines* to derive them analytically. Despite the inherent arbitrariness of the process, care in defining economically sensible markets is essential if the process of assessing competition is to be a meaningful and useful exercise.

To define a market, the first step is to identify the service or product that is potentially to be subject to light-handed regulation. This should be the service of the firm in question that is expected to be offered at market-based prices, not what the firm has been offering, and not necessarily what possible competitors are presently offering.

The next step is to identify close substitutes for the identified relevant service or product. These are offerings that would readily substitute for the offering of the firm in question at a moderate increase in price above the competitive level. All items that would substitute with such an increase in price should be included in the market.

The most serious problems in market definition in connection with analysis of deregulation or light-handed regulation are caused by lack of focus on the product or service for which light-handed regulation is under consideration. Focus on the wrong product is particularly likely to occur when light-handed regulation is being offered in conjunction with a rearrangement of ser-

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22. 1989 A.B.A. SEC. ANTITRUST L. TASK FORCE ON THE ANTITRUST DIVISION OF THE U.S. DEP'T. OF JUST. REP. 8-11 (citations omitted). The ABA report contains a number of references to the voluminous literature on the "new learning." A seminal critique of the "structuralist" approach, in general, and the use of market share to infer market power, in particular, is by Landes and Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937-96 (1981).

vice offerings, as, for example, in the case with the introduction of GIC service. Many of the parties or experts who have testified in GIC proceedings before the FERC have explicitly or implicitly defined the relevant market for GIC service as "natural gas," regardless of whether gas is sold on an as-available or firm basis. However, GIC service is, by definition, strictly *firm* service. GIC service is the commitment to provide assured supplies of gas at an acceptable price. That is, GIC service is a commitment to provide firmness of supply on defined price terms rather than gas *per se*. Mischaracterizing the market as natural gas creates a mistaken picture of competition from numerous sellers of as-available spot gas, which being nonfirm, do not substitute effectively for GIC service. Such a mischaracterization can lead to two kinds of mistakes: (1) treating the market as sufficiently competitive when it is not, and (2) failing to address the issue of how to encourage entry of potential firm gas competitors, which depend on access to firm transportation and are potentially a source of sufficient competition.

Once the relevant product or service has been identified, it is necessary to identify the geographic market. The same principles of substitution that apply to the product also apply to geographic markets. Conceptually, the market area — starting with the sales area of the firm in question — is expanded as long as the product from each added area would substitute for the firm's product in the event of a moderate increase in price above the competitive level.

The geographic extent of the market is likely to depend on the nature of the regulatory scheme and changes in that scheme as well as the conduct of the firm in question. For example, if a pipeline denied effective access to firm transportation, the geographic market for firm gas would be limited to pipelines serving the destinations served by the pipeline in question. In contrast, if the pipeline in question was required to provide access on reasonably equivalent terms to the transportation it provided for its own firm service, then the market area would extend to competitors able to deliver to the pipeline's system. There would be an even larger geographic market if pipelines upstream of the pipeline in question had similar open-access transportation policies. The critical point is that the geographic extent of the market in most situations where deregulation or light-handed regulation is an issue cannot be defined independently of an assessment of how transportation access will affect the geography of competition.

Having defined the market within which the vigor of competition is to be investigated, the next step is to assess the main structural factors that economists believe affect competition: market concentration, entry and other conditions that assist or deter collusion. This process has become well known and a standard point of antitrust and merger analysis. The key consideration that should be kept in mind is that structure is not necessarily fixed, but may change in response to regulation or the conduct of firms. This consideration is important in all analysis of competition (*see* Figure 1), but is absolutely vital in analyzing deregulation or the competition that will occur with light-handed regulation.

E. *Market Concentration*

It is generally accepted among economists that a market with many competitors will likely be highly competitive unless rivalry is stifled by explicit collusion, which can be prevented or policed by antitrust enforcement. A market with a large number of competitors can seldom avoid rivalry; implicit collusion among many sellers is usually too complex to accomplish. For more concentrated markets, i.e., industries with only a few sellers, in contrast, competitors often temper rivalry with a degree of restraint. They tend to avoid uninhibited price cutting, but some rivalry commonly persists nevertheless. To determine whether a concentrated market will be feasibly competitive, it is necessary to examine entry conditions and other factors that deter or aid collusion. If the influence of these factors is favorable to competition, then a market with several substantial competitors should be sufficient for light-handed regulation, as the FERC found in its *Transwestern* decision. If these factors are unfavorable to competition, more competitors would be needed for competition. Even in this case, however, all that is needed to justify deregulation or light-handed regulation, considering the precedents in the unregulated sectors of the economy and the empirical evidence on the impact of concentration, is enough rivalry to prevent the exercise of substantial market power. This can often be accomplished with relatively concentrated markets.

There is extensive professional economic literature on the empirical relationship between market concentration and measures of the exercise of market power, indicated by some index of the margin of price over costs, usually profits. Weiss[23] surveyed the results of 42 studies in his assessment of the subject and found that results vary greatly from study to study. Some subsequent studies are cited by Peltzman.[24] Profits and concentration appear to be positively correlated on average, but the impact of concentration in individual cases is hard to predict. Moreover, concentration accounts for only a fraction of the variance in profit rates. Indeed, economic theory indicates that there is no close link between concentration and profits.[25] Thus, concentration levels above the low levels generally accepted as competitive are poor predictors of whether competition will be sufficient for light-handed regulation. The only general conclusion that can be drawn from the theoretical and empirical literature is that a market with low concentration will almost surely exhibit competitive behavior and results; however, a concentrated market may or may not, depending especially on entry conditions and also on other factors that can affect the market.

F. *Conditions of Entry*

Entry by new competitors provides competitive alternatives that prevent or limit market power. In economic theory, the potential for entry is sufficient to ensure competition under some plausible conditions, even if the incumbent

23. L. WEISS, THE CONCENTRATION-PROFITS RELATIONSHIP AND ANTITRUST (1974).

24. Peltzman, *The Gains and Losses from Industrial Concentration*, 20 J. L. & ECON. 229 (1977).

25. SPULBER, *supra* note 3 at 501.

firm has a market share of 100 percent.[26] In practice, easy conditions for potential entry normally lead to actual entry and moderate to low concentration. Where markets are undergoing a major transformation, new entry is a central element in the competition to be expected under light-handed regulation. In the case of GIC service, for example, new entrants offering firm gas sales may become a larger part of the prospective market, in some cases, than those pipelines that are existing suppliers of firm gas service. In the case of generating capacity and associated energy, sales to a local utility may more likely be from an IPP from which it has never bought than from an established supplier to that utility. In that case, the focus is more on what alternatives — new or old — will be available to buyers under light-handed regulation.

Entry requires time. The time required will vary from case to case. If new entry is required to achieve workable competition, and a substantial period — say more than a year — is needed for the necessary entry to occur, then there may be a need for transitional regulation. Transitional regulation would be directed at preventing action by the incumbent firm to impede entry and might also include a temporary price cap. However, entry need not be immediate to affect the current price; the expectation of entry will act as a deterrent to supracompetitive prices. Moreover, prices affect the incentive to enter. If a regulatory cap were set too low, it would deter competition. Setting a temporary cap above the competitive level could encourage entry and shorten the transition period.

How to assess the likelihood of entry will vary from industry to industry. It is usually appropriate to examine what is involved in entry — the amount of new capital required, the minimum feasible scale of entry and the accessibility of necessary technology, know-how and resources. In addition, it is useful to identify existing firms in the same or similar businesses that may be well positioned to enter. In the case of electric generating capacity, well-positioned potential entrants include IPP and qualifying facility (QF) firms that have operated in other areas of the country, manufacturers and constructors of generating facilities and equipment, and utilities with an interest in IPP business. In the natural gas GIC service case, potential new entrants include upstream pipelines, marketers, local distribution companies (LDCs) providing their own GIC service and producers.

Entry is especially important as a source of competition that would justify light-handed regulation. The critical question for competitive assessment is not "What is the concentration of the existing or historical market?" but, rather, "How can regulation be structured to encourage the entry that would ensure sufficient competition?" Seen in this light, the central issue relating to

26. The theory of contestable markets has demonstrated that free entry and exit are sufficient conditions to ensure economically efficient results. W. BAUMOL, J. PANZAR & R. WILLIG, CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE (1982). *See also* SPULBER, *supra* note 3 at 138-56, and R. SHERMAN, THE REGULATION OF MONOPOLY 77-8 (1989). In addition, Paul Samuelson's classic work on the market economy demonstrated many years ago that even in perfect competition with no economic or diseconomies of scale and free entry, firm size and market share are indeterminate. P. SAMUELSON, FOUNDATIONS OF ECONOMIC ANALYSIS 78 (1947). The seminal works on the importance of barriers to entry are by J. BAIN, BARRIERS TO NEW COMPETITION (1956), and G. STIGLER, THE ORGANIZATION OF INDUSTRY (1968).

the GIC service market is one of how far the pipeline will be willing to go to ensure firm transportation service on reasonably equivalent terms to those available to it for its own GIC service. For light-handed regulation of IPPs, the issues center around the appropriate rules governing transmission access by prospective suppliers or generating capacity and the potential amendment to the Public Utility Holding Company Act (PUHCA) so that electric utilities can establish subsidiaries to compete as IPPs without being subject to SEC regulation under the PUHCA.

Unlike the GIC and IPP situations, entry on a large scale is not expected under light-handed regulation of established oil pipeline markets, where the same product or service would be offered under light-handed as under conventional regulation, by largely the same firms. Thus, light-handed regulation would change market structure much less than it would in the case of GIC service. In oil pipeline proceedings before the FERC, witnesses have presented an analysis of the economics of truck and water transportation to assess the economic feasibility of entry at competitive prices. This is an important part of the assessment of competition, but entry is not as central to this assessment as it is in the cases of GIC and IPP regulation. Thus, in markets where market conditions and regulatory rules are not expected to change dramatically, the appropriate focus is on existing sellers and whether they do or do not constrain the exercise of market power.

G. Other Factors

In addition to seller concentration and entry conditions, a number of other factors affect the competitiveness of a market. The principal ones are demand-related factors and factors affecting collusion.

In a market in which demand is highly price-elastic (responsive to price), even a single seller may be unable to profit from setting its price substantially above the competitive level. In addition, the presence of buyer market power can limit seller market power. Where highly elastic demand or buyer market power is present, these factors need to be taken into account.

The second set of other factors affects the ability of sellers to collude implicitly. Competition is the antithesis of collusion. Whether firms will compete, rather than exercise restraint (implicit collusion), depends on numerous factors. New entrants tend to break collusion, and there are many other factors that may make collusion easy or difficult. For example, collusion is easier, other things equal, with a simple, homogenous product (such as natural gas) than with a complex, heterogeneous product (such as electric generating capacity). With a simple product, price and quality offerings are transparent and easy to match; whereas with a complex product, a competitor can compete in price and quality in ways that are not easy to match. Public posting of prices versus competitive biddings is another factor. With sealed bids, competitors are ignorant of one another's offers and would have great difficulty accomplishing explicit collusion. The number of potentially relevant factors is long and their effects are often subtle. Of three situations under consideration by the FERC for light-handed regulation, factors (other than entry and concentration) limiting implicit collusion appear to have a substantial impact only in the case of electric generation. IPPs subject to competitive bidding or negotiated deals for complex generating projects are virtually unable to collude implicitly with rivals.

IV. THE DOJ *Guidelines* AS A STANDARD FOR LIGHT-HANDED REGULATION

Because the *Guidelines* have been used by many participants in FERC proceedings as their method of determining the sufficiency of competition for light-handed regulation, it is appropriate to examine how effectively the *Guidelines* are being used and to consider how, if they are to be used, they might be most effectively applied.

A. The Guidelines

The *Guidelines* were developed by the DOJ to provide a systematic and consistent screening procedure to determine which potential mergers should be cleared as not posing a potential problem and which potential mergers should be challenged.[27] We believe the *Guidelines* have fulfilled this purpose. The *Guidelines* contain a set of carefully defined rules and procedures for defining markets and assessing evidence concerning market competition. The DOJ makes it clear that the quantitative rules of the guidelines are to be applied flexibly. It states:

> The aim of our merger policy is to take into account all relevant factors. . . . We do not make important merger decisions on the basis of numbers alone. The final decision approving or disapproving a merger. . . is made only after thorough consideration of all legal facts, many of which cannot be quantified.[28]

The *Guidelines* go on to state that strict application of the standards "may provide misleading answers."[29]

The portion of the *Guidelines* most directly applicable to light-handed regulation decisions is the section dealing with horizontal mergers, because it sets forth the DOJ's test of competitiveness of a single market. This is the portion of the *Guidelines* that has been borrowed and literally applied by various parties in light-handed regulatory proceedings before the FERC.

The *Guidelines* procedures for evaluating horizontal mergers include: (1) criteria for defining the relevant product and geographic markets; (2) threshold values of the level of market concentration at which the DOJ would accept, challenge or give further consideration to a merger; and (3) instructions for considering additional factors, such as market entry, which affect competition.

In applying the *Guidelines* approach, the tendency of analysts has been to focus on the market concentration standards of the *Guidelines*. As we have

27. The use of the *Guidelines* as a screening device to select situations where intensive analysis of conduct and performance is warranted is increasingly emphasized by economists. *See, e.g.*, F. Fisher, *Horizontal Mergers: Triage and Treatment*, 1 J. ECON. PERSP. 23-40 (1987). This article is part of a useful symposium on antitrust and merger analysis with emphasis on the role of the *Guidelines*.

28. *Guidelines, supra* note 7.

29. *Id.*

discussed, the relevance of concentration depends on the facts of each case. A market with low concentration is clearly competitive, but a market with high concentration may or may not be. To assess the competitiveness of such a market, it is necessary to analyze entry conditions and other factors. In addition, the relevance of historical concentration measures depends upon the prospect for change in the market. If the market is stable and undergoes little or no change during the transition to light-handed regulation, then concentration information will be of much greater relevance than if the market undergoes transformation as it goes from conventional to light-handed regulation.

The *Guidelines* recognize the appropriate place of concentration in the overall evaluation of mergers, to wit: ". . . market share and concentration data provide only the starting point for analyzing the competitive impact of a merger."[30] However, in practice, many analysis of both mergers and light-handed regulation have focused mainly on concentration while assigning a very limited role to other factors. Thus, it is important to understand concentration measures and their significance.

B. Market Concentration

The concentration screening thresholds of the *Guidelines* are stated in terms of values of the Herfindahl-Hirschman Index (HHI), a measure of concentration equal to the sum of the squared market shares of all firms in the market.[31] For unconcentrated markets with a post-merger HHI equal to or less than 1,000, the DOJ will rarely challenge a merger. For markets of intermediate concentration, indicated by HHIs between 1,000 and 1,800, the DOJ is unlikely to challenge a merger with an increase in HHI under 100, but may challenge mergers with greater increases. Markets with HHIs above 1,800 are considered by the DOJ to be concentrated, but the DOJ is unlikely to challenge a merger with an HHI of 1,800 producing an increase in the HHI of less than 50 percent. As a practical matter, the DOJ has rarely challenged mergers with HHIs of 1,800 or less and has cleared a substantial number of mergers with higher HHIs.

The HHI is a widely used measure of concentration. It has the desirable characteristic of taking into account the shares of all firms in the market. However, the inherent limitations of this index must be recognized.[32]

1. The HHI is a "pure number" and, therefore, has by itself no economic content. One must translate an HHI number into some number that has intuitive meaning. For example, a market with four firms of equal size would have an HHI of 2,500. However, an HHI of 2,500 does not indicate that there are four equal-size firms: 2,500 is compatible with a variety of numbers and shares.

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30. *Id.* at 21-2.

31. For example, a market with ten firms with equal shares would have an HHI of 1,000. Each firm's market share would be 10 percent and the squared share 100. The sum of the 10 squared shares of 100 equals 1,000.

32. C. Cicchetti, W. Hogan & J. Kalt, The Federal Energy Regulatory Commission's Proposed Policy Statement on Gas Inventory Changes, (available in Energy and Environmental Policy Center, Kennedy School of Government, Harvard University) (July, 1989).

2. HHIs, like any other concentration measure, are only as valid as the underlying information. The numerical processing can mask serious data problems.
3. HHIs are normally measured using actual historical market shares, typically for the most recent year for which data are available. This procedure makes sense in analyzing most mergers of firms in established markets where market concentration tends to be stable over time. However, as the DOJ recognizes, concentration based on historical data does not make sense for assessing competition in new or changing markets, where future entry or future changes in shares are particularly important.
4. The procedure of squaring market shares is merely a convention. There is no theoretical reason why shares should not just as well be cubed, or raised to any other exponent.
5. Most important, as we have already discussed, there is no strong theoretical or empirical basis for associating a given level of HHI with the degree of competition in a market. Low concentration is generally accepted as a sign of competition, but the competitive significance of intermediate and high levels of concentration depends on other factors, as we have previously emphasized.

Taken together, these considerations make it clear that HHI values should, at best, only be used to make gross discriminations. In this respect, it is important to keep in mind that the *Guidelines* so envision the use of HHIs. They are used as a screening tool, that is, to classify mergers that require close legal and economic scrutiny from those where appropriate disposition is obvious.

C. The Relevant Standard of Competition for Regulation Issues

The *Guidelines'* screening standards for horizontal mergers are based on the goal of preventing incipient monopoly by identifying mergers likely to lead to a significant increase in market power. A merger changes the status quo, so it is easy to limit potential deterioration of competition by preventing a potential merger. As a consequence, the *Guidelines'* standard of competitiveness is much more stringent than the implicit standard that has been used in determining which industries should be price regulated or whether an unregulated firm has an illegal monopoly under the Sherman Antitrust Act. For the purpose of determining the appropriate degree of direct economic regulation, the ultimate test is: Does the buyer have alternatives such that the present regulated seller will be unable to exercise substantial market power? Very few alternatives may be sufficient.

Recognizing that the appropriate standard of competitiveness in regulatory situations is very different from that implied in the concentration thresholds used in the *Guidelines*, some experts, testifying in FERC light-handed regulation cases, have employed HHI thresholds of 2,500 or more in place of the 1,000 or 1,800 of the *Guidelines*. Use of a higher threshold is clearly mandated. However, these experts remain focused on the *historical* concentration threshold approach of the *Guidelines*. Thus, it is not clear what relevance as a measure of market dominance even a high HHI value might have in many deregulated and light-handed regulated situations if the HHIs are based on historical data.

D. *Applying the* Guidelines *to Light-Handed Regulation*

Since the *Guidelines* were not designed for light-handed regulation, it should be no surprise that uncritical application of the *Guidelines* can lead to erroneous evaluations. Nevertheless, it is likely that the *Guidelines* will continue to be used in light-handed regulation cases, and the Commission must base its decisions on the records before it. Consequently, it is pertinent to examine how the *Guidelines* should be used and interpreted.

If the *Guidelines* are to be used in evaluating the appropriate light-handed regulation, the following precautions should be observed:

1. The concentration threshold (HHI) should be raised from the levels used for mergers to levels consistent with a standard of avoiding market dominance. The standard of avoiding dominance should apply to all structural factors — concentration and entry in particular.
2. The focus should be prospective. Unless the market is mature and stable, historical information will have very limited relevance to the introduction of light-handed regulation.
3. In markets that will undergo change in conjunction with light-handed regulation, historical concentration should be deemphasized. Historical concentration has little relevance in markets undergoing major change from conventional to light-handed regulation. However, in stable markets in which light-handed regulation is unlikely to change concentration, historical concentration is still relevant.
4. Heavy weight should be given to entry conditions and to the potential for creating entry through applicant actions and regulatory ground rules. In both the IPP and GIC situations, the potential for encouraging entry is great. With respect to these cases, competition from new entry will often make the difference between a noncompetitive market and one which is clearly competitive. During the transition period, while the competitive market is becoming established, regulation to promote conditions conducive to entry may be appropriate.
5. Literal application of the *Guidelines* should be avoided. The *Guidelines* were intended to be a pragmatic and flexible analytical tool, and the DOJ has interpreted them flexibly. In contrast, use of the *Guidelines* by other agencies has tended to be literal and mechanical. Literal application results in emphasis on historical concentration and a tendency to apply the thresholds of the DOJ to evaluation for light-handed regulation. If the *Guidelines* are to be used, emphasis should be on using the underlying economic principles and adapting them flexibly to an application that should be explicitly recognized to be new and different. Where evidence based on literal application of the *Guidelines* is introduced in light-handed proceedings, that evidence should be taken with more than a pinch of salt by regulators and others concerned with policy decisions.

In the case of established markets, such as oil pipeline markets, the *Guidelines'* approach, modified as we have indicated, will usually be appropriate for evaluating competition for light-handed regulation. However, in situations where the market structure would undergo a major transformation under changed regulatory ground rules or conduct of the applicant firm, extreme care is needed to apply the *Guidelines'* approach. There is danger that attempts to use the *Guidelines* to evaluate competition appropriately would end up stretching the *Guidelines'* approach to the point that it would not be recognizable. For such situations, the reasonable and straightforward thing to do is to apply a fresh approach designed specifically for light-handed regulation.

E. *The FERC's* El Paso *Decision*

The Commission's decision in docket CP88-434 et al. is highly important because it is the first major decision about the "adequacy" of competition in which the FERC had the "benefit" of an extensive exploration of the economics of identifying and measuring market power. In general, the Commission approached the task in a sensible manner which, we hope, will set an analytic precedent. Nonetheless, we believe that some vital issues were significantly slighted or avoided.

The proceeding involved El Paso's application for a certificate of public convenience and necessity, pursuant to the Natural Gas Act and the FERC's Order No. 500, to permit El Paso to institute GIC service for its single California customer, Southern California Gas Company (SoCal Gas), and its "East of California" (EOC) customers. El Paso proposed that the GIC be "market-responsive," i.e., regulated by competition rather than having the price of the GIC service directly determined by the FERC. The Commission determined that authorization of such a market-responsive GIC depended on the answers to two questions. The two questions the Commission posed are paraphrased below:

- Is competition sufficient to permit an unregulated GIC?
- Would sales customers have the right to convert to firm transportation service that would be adequately comparable to firm sales service?

The Commission approached the task of defining the market by focusing on the choices available to El Paso's sales customers and where those supply options were located geographically. The Commission ignored the market definitions proposed by El Paso and various intervenors and defined the market sensibly as firm gas service. The correct focus was not on some abstract notion, but on the specifics of where SoCal Gas and the EOC customers could turn for firm supplies at a reasonably delivered cost and who might reasonably offer firm service to the relevant LDCs.

The Commission also focused on the constraints imposed on El Paso and other sellers by the interrelations of buyers and sellers that characterize a market, and how individual buyers differ with regard to their supply options. Consequently, if a seller cannot discriminate in the prices offered to those individual buyers, that is, if it has to provide the same service and prices to all, those buyers with few options receive the benefits of the competition for the custom of those buyers with many supply options. Thus, the proper focus in analyzing competition is not on whether a given buyer has only one option; the proper focus is two-fold. First, it is important to examine whether, in the relevant market as a whole, there are sufficient sellers such that each seller feels the pressure of competition. Second, for those buyers with access to only one or a small number of sellers, is price discrimination likely? The Commission's analysis dealt with both of these areas.

Third, and particularly important, the Commission focused on the potential for entry of new sellers who might sell to El Paso's California and EOC customers in the future. As previously discussed, entry conditions have long played a vital role in the thinking of economists about market power. Today, in particular, the prevailing view among economists places great weight on the competitive impact of entry. Further, as we have emphasized many times, in markets in transition, such as natural gas markets, entry is the likely key to assessing whether competition will adequately permit light-handed regulation. Thus, entry is the *sine quo non* in evaluating competitive adequacy, and *El Paso* so reflects. Nonetheless, as we will discuss shortly, the significance of entry to competition was not adequately addressed in *El Paso*.

Finally, the Commission resisted the opportunity, put before it by a number of commentators, to rest its case on a simple HHI computation. It did not engage in a mechanistic analysis, rather it attempted a detailed analysis of all relevant structural and conduct aspects of the market that could be identified. This is a most welcome precedent.

Recognizing the sound analytical aspects of *El Paso*, nonetheless, the decision reveals a failure to come to grips with the fundamental issue involved in assessing the adequacy of competition in rapidly changing markets. This issue can be expressed by pointing out that the two questions the Commission posed are not independent. Rather, they are two aspects of a single question.

The adequacy of competition, in the context of a GIC, depends upon whether LDCs, or their suppliers (actual or potential), can get access to firm transportation, that is, in all material respects, reasonably equivalent to the transportation service embodied in a pipeline's firm sales service. If reasonable comparability exists, then competition is likely to be adequate, because it will be easy for potential suppliers to offer a product that is as attractive as pipeline service. If firm transportation is not available on reasonably equivalent terms and conditions, then it is likely that there will be substantial barriers to entry of new suppliers of firm service. In short, with respect to an analysis of competition, the likelihood of monopoly pricing will depend upon the terms and costs of entry.

There is great irony in this critical point. Light-handed regulation in the natural gas industry is intended, at least in part, to reduce the extent of Commission intervention into pipeline markets. However, in markets such as those involved in GIC applications, typically, because of past business and regulatory arrangements, competition is not strong. Furthermore, the number of potential competitors that could enter readily if there is access at nondiscriminatory rates and on nondiscriminatory terms to transportation and other services that comprise the GIC product, the competition is likely to be adequate. The irony arises because necessary actions are likely to require regulatory attention to complex and detailed issues of conduct by the existing sellers. Thus, on the basis of the *El Paso* decision, one may expect the Commission's scope of involvement to lessen, but the intensity of the remaining aspects of regulation is likely to be very high. For example, *El Paso* suggests a need to deal with rate design issues on the El Paso system at a level of detail that the Commission chose not to pursue.

El Paso provides both good and bad news. The good news is that the Commission adopted a broad framework examining a wide variety of structural, conduct and performance issues rather than limiting its attention to narrow structural measurements. The bad news is that the Commission failed to come to grips with the fundamental relationship between its regulation of pipeline rate designs and the barriers to entry to provide GIC service.

V. A Suggested Approach to Evaluating Competition

A sound approach to evaluating competition for light-handed regulation should be sensitive to the requirements of the task. It should be recognized at the outset that the evaluation will sometimes be very uncertain. In addition to the uncertainties that are inherently involved in evaluating competition, there is the added uncertainty of predicting what market structure and conduct will be after the transition from conventional regulation to market-based pricing. For regulators or legislators, who must decide whether to approve deregulation or light-handed regulation, a decision to go ahead must involve an element of "betting on the come." The expert evaluations of competition that are put into this decision should not hide the underlying uncertainty, because decisionmakers may not be able to make good decisions if they do not have a realistic sense of the risks.

A good approach to evaluating competition for light-handed regulation should explicitly acknowledge that the relevant threshold of competitiveness is avoiding dominance, as that is the threshold which has been accented for determining which industries should be subject to economic regulation. That standard was, in effect, used by the FERC in *Transwestern*, where rivalry from a few major competitors to Transwestern in California was deemed a sufficient indication of competition. In this case, most of the major competitive alternatives to Transwestern have been pipelines subject to price regulation. Nevertheless, to our knowledge, the required competition standard has not been explicitly spelled out in any decision of the FERC, and the expert testimony, filed in proceedings involving substituting light-handed for more traditional regulation, reveals disagreement over what the explicit or implicit standards should be and a lack of explicit discussion of the issue.

Information on market concentration will vary in its relevance. Since the threshold for sufficient competition — avoiding dominance — generally occurs at high levels of concentration, evaluating concentration is a simpler task than when higher competitive standards are used. The question of whether there will be enough alternatives so that the applicant cannot dominate the market must be asked prospectively. It should combine both existing competitors and imminent new entrants as a common pool of prospective competitors.

The evaluation of competition should be sensitive to the potential for change, including changes that can be induced by regulation to increase competition. In this context, analysis of prospects for entry by new competitors will be particularly important.

In the case of relatively stable market structures, such as some of those served by oil pipelines, an evaluation of competition giving substantial weight to concentration in the established market is reasonable, as long as the threshold of competition is one of avoiding dominance and as long as entry conditions and other factors are given due weight.

The essence of an effective approach to evaluating competition for light-handed regulation is to use the appropriate threshold (avoiding dominance) and to focus on what the market will become after light-handed regulation is introduced. Since it takes time for the post-transition market structure to get established, it is desirable to analyze the market as it will be after a breaking-in period, and to use temporary regulation, if appropriate, to deal with transition problems. We recommend two years as a rule of thumb for the breaking-in period, with flexibility to allow for differences in the required time for entry with different technologies. Where the transition period is likely to be long, transitional measures, such as temporary price caps, could be considered.

The analysis should proceed along the following steps:

1. The starting point should be to understand the applicant's proposal. What service is the applicant offering to provide? Who are the potential buyers of the service? What other supplementary service offerings (e.g., firm transportation) are being offered? What regulatory or conduct restrictions on competition are in effect prior to the transition to light-handed regulation and how are these to be changed? The objective at this stage is to thoroughly understand the applicant's proposal.
2. From the outset of the evaluation and throughout its progress, it is important to ask: How can the conduct of the applicant firm and the regulatory ground rules, to which it is subject, be adjusted to maximize competition? It is necessary to review the design of the product, ancillary services (e.g., firm transportation, access to choke points, storage), rate schedules and bundling of services with an eye to the configuration that best realizes the potential for competition. How this information is used depends on the context. For example, if an applicant is already offering all of the access concessions it wants to, then it will not find helpful information on how to concede more. However, for regulators, analysis of the potential for increasing competition will be of greater interest, especially if the adequacy of competition is in doubt when its potential is not realized. As the analysis proceeds and the analyst's understanding of the market grows, the question of how to realize competitive potential should be revisited.
3. The product market should be defined, beginning with what the applicant will offer. Because the standard of competition is avoiding dominance rather than that used in the *Guidelines*, the standard for determining whether a potential substitute should be viewed as part of the product market should not be as stringent as in the *Guidelines*. According to the *Guidelines*, to be viewed as being in the same market, products must be meaningful substitutes for products of the firm in question within one year, assuming there was a five percent price increase above the pre-merger level.[33] In analysis involving light-handed regulation, a moderately larger price increase and a longer adjustment period should be considered. The important consideration in defining the product is to understand what products will compete with the service to be offered under light-handed regulation. We believe the critical issues will be less a matter of how broad the market should be than of correctly understanding the service to be performed under light-handed regulation and relating that to the characteristics of the other services that may be reasonably substituted. The problem that has arisen in GIC regulation has been that some parties have ignored the importance of firmness to GIC ser-

33. The *Guidelines* allow for use of different price increases or time periods for defining the market in cases where the facts justify a departure from their usual standards. *Guidelines*, *supra* note 7 at 20,556-57.

vice. That is a more serious problem than misjudging the breadth of the market at the margin. In any event, it would not make sense to exclude a substitute on grounds that it would be attractive at ten percent above the regulated price rather than seven percent. The theoretical and quantitative foundations of the analysis are not precise enough for such distinctions.

4. The geographic market should be defined, starting with the areas served by the applicant firm. The important thing to keep in mind in defining the geographic market is the interdependence of the market area with transportation access to pipelines or transmission lines. By providing access, it is possible to broaden the area. In GIC cases, access to firm transportation often makes a big difference in the geographic market as well as the population of potential competitors.

5. The next step is to consider the pool of competitors that are likely to be active in the market within the next two or so years. This pool consists of a combination of presently established firms and prospective entrants. Firms presently established in the market are of interest less for what they have supplied in the past (historic market share) than for what they can supply to the market in the future. Are presently existing suppliers constrained by transportation access to customers, transportation capacity or other factors? What time and effort would be required to relax those constraints? These questions need not be answered in depth, but it is important to think in terms of each competitor's ability to expand and take market share away from the firm in question. If competitors can expand to take most of the market in the event that the firm in question attempts to exercise market power by charging noncompetitively high prices, then they can provide sufficient competition for light-handed regulation to substitute for more intrusive governmental controls and still protect the consumer.

   Appraising the pool of potential competitors is particularly important when GIC-service proposals are being evaluated. Historically, firm gas sales have been made primarily by pipelines, but some other existing firms in the gas industry have the ability to aggregate supplies, provide storage, mix portfolios, schedule firm deliveries, and provide the other functions necessary for firm gas service. Some of them have shown an interest in entering the market in the event that transportation and related services are made available. If this pool of competitors is capable of capturing most of the market from the applicant in the event of an attempted exercise of market power, that should be a sufficient basis for concluding that light-handed regulation is feasible. In that event, potential competition from new firms need not be appraised. However, if the pool of competitors that can act quickly could not capture most of the market, then it is necessary to examine the prospects for additional, less certain or slower entry. If there are potential competitors able to enter in the event of sustained prices substantially above the competitive level, then it is reasonable to conclude that competition is likely to be sufficient for light-handed regulation.

6. If the results of the previous step are not conclusive, it is necessary to examine other factors, including buyer concentration and factors that affect collusion. The focus on market concentration in the *Guidelines* reflects the understanding that implicit collusion (mutual restraint from competition) becomes more difficult in lower levels of market concentration. The analytical approach must also be concerned with collusion; but, because the pertinent threshold of sufficiency is avoiding dominance, the analysis need only show that collusion is not sufficient to prevent the level of rivalry observed in the most concentrated industries in the unregulated sector.

   If a few competitors can capture most of the market, the question arises whether they constitute a sufficiently large number of suppliers. The likely amount of competition will depend on how much restraint or implicit collusion will inhibit rivalry among them. The concentration thresholds of the

> *Guidelines* are an attempt to use concentration as a proxy measure of the likelihood of collusion, a phenomenon for which no one, including the best economists, has a reliable, accurate index. To treat the question of collusion, we suggest a simple test. If there are actual and potential rivals to the applicant firm capable of acquiring most of the market, that should be sufficient for light-handed regulation unless the facts of the market indicate an exceptional pattern of actual or potential collusion. Unless the structural facts suggest the market is prone to collusion and firms in the market have avoided rivalry to date, factors affecting collusion should not receive weight in the analysis.

This approach to evaluating competition for light-handed regulation focuses on the essentials of the task of evaluating whether likely competition in the emerging market will be adequate to protect the consumer from likely dominant-firm conduct. It addresses the transformation of market structure and conduct that often occurs in the transition from conventional to light-handed regulation. It recognizes the potential for making changes in regulatory ground rules or applicant conduct to increase competition and make light-handed regulation feasible. It uses a threshold — avoiding dominance — consistent with the historic distinction between regulated and unregulated industries in the economy. And it stresses the likely competition under light-handed regulation, with a focus on competition from new entrants rather than emphasizing historical concentration of existing firms.

We believe straightforward application of this approach will lead to effective evaluations and avoid the pitfalls of literal application of the DOJ *Guidelines*. Applying the *Guidelines* flexibly, with enlightened attention to the considerations discussed in this paper, is preferable to more literal application of the *Guidelines*. However, where light-handed regulation will change markets materially, it makes better sense to address the light-handed regulatory issues directly than to try to stretch the *Guidelines* procedures to adapt them to an application for which the *Guidelines* were not designed.