IssuesLetter

Concentration and the Sustainability of Market Power in Public Utility Industries

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The current popularity of deregulation and marketization of public utility services rests on the belief that new, profit-driven incentives and new systems of supply will enhance efficiency, accelerate innovation and eventually lower real prices to all classes of customers. Whether this is a realistic expectation depends on the emergence of effective competition across the board. If deregulation results in industries characterized by high market concentration and tight oligopoly, then an entirely different outcome can be anticipated.

Maintaining competition in public utility industries is not merely a matter of antitrust enforcement. There are inherent structural features of these industries that lend themselves to concentration, price discrimination, and the exercise of market power. The goal of public policy should be to provide maximum access to the large infrastructure networks and enhance rather than restrict consumer choice. But the simple process of deregulation will not assure this outcome. Major players will move aggressively to establish positions of dominance, and the longer regulators delay in introducing a clear set of market structure guidelines, the more difficult it will be to achieve this goal.

Network and Coordination Economies Promote Concentration

The three major structural determinants that promote concentration are: inherent network economies, coordination economies, and monopoly focal points.

Network economies arise from the joint production of multiple services on a network, savings associated with pooled reserves, economies of scale and scope, enhanced network functionality associated with increases in size, and the low incremental cost of adding more services. Network economies require a minimum efficient size to be viable.

Coordination economies arise from successfully matching diverse usage or demand patterns with a capital intensive supply system. The result is the attainment of high load, diversity, and capacity factors (or equivalent measures in telecommunications). Coordination economies require a minimum efficient market share. Interestingly, coordination economies appear to be growing in significance for resellers and marketers, as demonstrated by the increased concentration among natural gas marketers who must be able to hold transport capacity, storage, and natural gas supply for future use in order

to provide one-stop/bundled service for customers. Similar patterns of concentration are emerging among electricity marketers.

Monopoly focal points arise because of the existence of bottleneck facilities that must be used to participate in network or coordination economies.

Managers Have New and Aggressive Goals

At the same time that strong structural determinants promote industry concentration, a new set of utility management objectives has emerged with values quite different from those of the past. Historically, utility management placed great emphasis on adequate and reliable service. To be successful in the new world of substantial deregulation and tight oligopoly, new goals and actions now dominate. These include targeting the most attractive markets, striking early and hard to capture or retain market share, closely monitoring the actions of rivals, and achieving the requisite size and mix of services. In this new setting, there is also a recognition that the long-term viability of the firm is no longer assured by regulation and that failure to achieve these goals could result in its eventual demise.

Management can employ various pricing strategies to assure success in a deregulated environment. It can introduce low, limit-entry prices to foreclose rivals and retain preferred customers. An example of these are special medium- and long-term contracts that give low rates and preferred terms to large electric customers that remain with the utility. It can impose high access prices to foreclose rivals or make the cost of entry extremely high. (High access pricing by local exchange carriers is one example, but the 74-81 percent increase that occurred in rates for transporting power for resale by 18 major utilities after FERC Order 888 also illustrates this practice.) In addition, it can adopt a policy of conscious parallelism where one firm acts as a price leader to establish uniform prices for the industry that sustain acceptable levels of profitability. There is ample evidence of price leadership in the domestic long distance telecommunications market among the three principal rivals - AT&T, MCI, and Sprint. Such price leadership can be eroded, of course, by the bargaining power of big buyers, so that the actual price structure represents a mixture of conscious parallelism and selective or secret concessions to large users.

At the same time, management strategies under tight oligopoly will introduce marketing and investment programs that promote concentration.This can take the form of collaborative behavior that culminates in alliances, joint ventures, acquisitions, and mergers. The goal of such activity is to dominate or preempt networks, share the risks of new markets, minimize the risk of new technology, establish standards as barriers to entry, and facilitate offering bundled retail services and one-stop shopping. The strongest alliances match two or more major firms in the provision of a new service for a common market but with a clear understanding that the partners in the alliance will not invade each other's territory. The alliance between France Telecom and German Telekom to provide Atlas service for large buyers across Europe is an example. The weakest alliances are those with uncertain benefits and relative ease of entry or departure. Acquisitions and

mergers are also forms of collaborative behavior. They may be vertical (Chevron and Natural Gas Clearing House integrating oil and gas production with gas marketing), or they may cross industry lines (the acquisition of Panhandle Pipeline by Duke Power). There has been a rapid increase in all forms of collaborative behavior in anticipation or as a result of deregulation.

A countervailing force to collaborative behavior takes the form of preemptive strikes by major players to establish a market position. This has been seen in the entry of US electrics into British power distribution and in their moves to take advantage of privatization programs in both industrialized and developing nations. Perhaps the most impressive example has been WorldCom's move to establish itself as a major participant in local, long distance, overseas, and Internet markets through an aggressive acquisition program that includes Wiltel, UUNet, MFS, Brooks Fiber, and, potentially, MCI. But such preemptive moves do not preclude collaborative behavior, as WorldCom demonstrated when it indicated a willingness to participate in a global alliance with British Telecom.

Tight Oligopoly

Tight oligopoly exists when the combined four leading firms have 60-100 percent of the market, and barriers to entry persist. It is possible to argue that current estimates of market concentration are not meaningful and that concentration will be eroded over time by the entry of new rivals. In support of this argument, one could point to the 100-200 firms that have expressed interest in entering the California electricity market in 1998, or the 30 or more potential entrants in the Philadelphia electric market.

However, if one looks at the domestic long distance telecommunications market, where 20 years have elapsed since the Execunet decisions opened the market to entry, high concentration still persists. Currently, AT&T has approximately 60 percent of the market, MCI 20 percent, Sprint ten percent, and WorldCom seven percent. Similarly, 12 years after privatization and liberalized entry in the UK, British Telecom still has 89 percent of the local market and 78 percent of the national telecommunications market. Clearly market concentration is a persistent problem, and it is premature to dismiss it as irrelevant or vulnerable to erosion over time in the absence of further investigation.

The Adverse Effects of Oligopoly

There are at least eight adverse effects associated with tight oligopoly in public utility industries.

1. Prices will not track costs. Instead, prices will tend to reflect corporate strategies and the bargaining power of individual players.

2. Profit levels will be higher than those that would prevail under effective competition or capable regulation.

3. Network technology and design will be driven by the demands of the largest users rather than the infrastructure requirements of the region or nation.

4. Asymmetric deregulation will provide an incentive for management to fragment the supply network by transferring individual assets to non-regulated entities in the hope of capturing economic rents inherent in these assets.

5. There will be an inducement to disinvest in the network whenever alternative investment opportunities appear to offer a higher return. This will result in a denigration of both infrastructure and quality of service.

6. Oligopoly pricing can lead to price rigidity for many services when costs fall, so that consumers of these services will not participate in attendant savings.

7. The gains from network and coordination economies will not necessarily accrue to those classes of customers who serve to bring them about. Some customer classes will not participate in network benefits in proportion to their contribution to the success of the network.

8. Societal goals, such as universal service, conservation, and infrastructure enhancement, may not be consistent with the goals of tight oligopoly. As a consequence, society will have to bear an additional burden to achieve these objectives. The problem will worsen if the oligopolistic players are able to game such remedial measures to their advantage.

Flawed Regulatory Responses

Regrettably, price cap regulation is ill equipped to deal with tight oligopoly. A system of indexed ceiling prices simply cannot handle pricing strategies designed to limit entry, promote tie-in sales, establish price leadership, or impose a vertical price squeeze on rivals. Furthermore, when price cap regulation severs the relationship between profits and prices that existed under rate base/rate-of-return regulation, it severely weakens a regulatory tool needed to monitor oligopoly behavior. Under tight oligopoly, profits become an important measure of the reasonableness of prices - yet oversight and control of profits are now placed beyond the scope of regulation.

Nor have efforts at assuring open access and full interconnection met with the success anticipated when the Energy Policy Act of 1992 (EPAct) and the Telecommunications Act of 1996 were enacted. In the natural gas industry, while there has been voluntary interconnection enhancing transport over greater distances, the introduction of negotiated/recourse rates for pipelines - when coupled with rebundling at the retail level by separate marketing affiliates - creates a clear potential for vertical price discrimination. In electricity, FERC has sought to implement the EPAct through moves toward open access and the establishment of new merger guidelines. However, the

merger guidelines as imposed by the analytic screen (based on the Hirshman-Herfindahl Index) appear to be readily circumvented by a supposed relaxation of entry restrictions or the creation of an ISO. Furthermore, while FERC endorses functional separation of generation from transmission and distribution, it does not exercise stringent control over regional transmission groups that will play a major role in controlling transmission networks. In effect, another example of collaborative oligopoly behavior will be established. In telecommunications, efforts at open access remain stymied as the major players cannot agree upon an acceptable compromise that protects each of them from a significant loss of market share while assuring an opportunity to achieve dominance in the rapidly changing telecommunications market.

Structural Separation: The Most Effective Remedy

There are options for constraining the market power associated with high levels of concentration. The first is a mandatory structural separation of the network from all services and offerings that use the network and are deemed to be potentially competitive. As a result of this move, the network could be a common carrier under regulation with independent financing, independent management, and independent ownership. Proposals for the creation of a Transco in electricity will not necessarily approximate this type of proposal. An independent network could move to achieve network and coordinating efficiencies through expansion and increased output. Divorced from the parent company, it could achieve expansion without necessitating expansion by the former parent, thereby avoiding further concentration. An expansion of an independent network would also serve to diminish the market power held by buyers and sellers utilizing the network. As network size increases, the ability of large buyers to extract price concessions and dictate network design would diminish while the market power of sellers would decrease because buyers would have access to more supply options. And as buyer options increase, the number of captive customers will decline. Concurrently, an increase in network size would make collaborative behavior more difficult and diminish the incentive to pay excessive fees for assets, such as generation, that will be exempt from regulation. Structural separation of the network would also minimize the incentive to game and fragment the network or to disinvest in the network, and it would provide assurance that vertical pricing by common holding company control of both the network and separate marketing affiliates will be eliminated.

In cases where structural separation is not feasible because of the exercise of political or economic power, then a second-best solution would involve separation on a line-of-business basis of activities within the parent holding company. The Rochester plan, introduced in January 1995 serves as an example. There, the telephone network has a separate board of directors and independent debt financing. It remains under regulatory control, and the public service commission has authority to suspend dividend payments to the parent holding company (Frontier) in the event that abusive practices are discovered. On the other hand, the deregulated affiliate is free to market and price any service or rebundle any mix of services. In effect, the network remains a common carrier, and the consumer has the option of buying basic service from that carrier or from the deregulated affiliate. A major question remains as to whether the network per se can be expanded to

take advantage of all inherent economies without a parallel expansion of the parent holding company. Nevertheless, the Rochester plan might be adapted to pipeline and transmission grid networks.

If neither of these options is possible, then regulators and public policy makers will have few options for dealing with tight oligopolies. Antitrust action has proven largely ineffectual in coming to grips with the problems of tight oligopoly. At best, regulators could seek to tighten up price cap regulation by having periodic, cost-based reviews and by reintroducing an oversight of profit levels as a test of the reasonableness of potentially oligopolistic prices. The only method of dealing with price leadership directly would then be to introduce a form of bellwether pricing in which the regulator forced one oligopolist to lower prices in the hope that others would follow. Regulators can endeavor to employ their authority over mergers and acquisitions to promote competition, but such efforts will be severely handicapped by debates over what constitutes effective competition. A structuralist definition (five to six independent rivals of comparable size) will be vigorously challenged by those who seek to foreclose government intervention by introducing technological change or potential entry as panaceas for market power problems. State and federal regulators might also attempt to strengthen quality of service requirements and establish reporting requirements for regional transmission groups as well as large marketers and resellers. Regrettably, the ability to circumvent most of these restrictions is readily apparent, and it is difficult to be sanguine about the prospects for success.

Conclusion

Variants of structural separation will appear from time to time as proposed solutions to market power problems. LCI International's 1998 petition to the FCC to restructure regional Bell companies into wholesale and retail operations serves as an example. However, once the deregulation process moves toward completion, the prospects for achieving structural separation are greatly diminished. For that reason, prompt action in electricity and natural gas is imperative.

The views expressed in this paper are solely the views of the author and do not necessarily reflect those of Michigan State University or the Institute of Public Utilities.

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