
PROBLEMS IN CREATING EFFECTIVE COMPETITION¹

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1. INTRODUCTION

The principal thesis of this chapter is simple. Regulation has been less harmful than its critics have claimed, and effective competition is harder to establish than the proponents of deregulation suggest. Accordingly, there is a danger that deregulation will occur too hastily and will lead to an unacceptable situation of market dominance.

Deregulation is a complex process. It involves converting a regulated monopoly firm into one company with several rivals, all of which operate under fully effective competition. If the resulting competition is weak or incomplete, the deregulation fails. Despite a great deal of deregulatory action in many industries since 1970, transformation from a monopoly to a competitive market structure has probably not yet been accomplished in a major utility industry. So the matter is still experimental, and it deals with complicated and controversial conditions.²

Telecommunications, in particular, seems to have witnessed “revolutionary” changes since the 1960s (Noam, 1993). But the “revolutions” have mainly been mild so far, and dominant firms have often been able to delay or prevent the onset of full competition. In a new parallel case, the electric industry faces the same threats to its new era of competition.

In the deregulation of utilities, the policy goal is to create a new competitive process, while retaining the advantages of the basic network function. In scores of local telephone markets around the U.S., this task is about to be attempted under the new 1996 Telecommunications Act, but the prospects are limited. Most observers expect that the Baby Bells will retain at least 80 percent of the market share for many years; such high, single-firm dominance is inconsistent with effective competition.³ Similarly, many of the long-established electric companies expect that they will remain the dominant sellers of power in their local markets.

In this chapter, my main points will be: 1) Both *single*-firm market dominance and *several*-firm market dominance (that is, tight oligopoly) are usually inconsistent with effective competition. 2) Regulation can have important benefits. The supposedly severe costs of regulation have not been proven to be large, except perhaps for airlines and railroads. 3) Premature deregulation is harmful to society. It permits monopoly power to

remain, but without the restraints necessary to protect the public. And 4) The main impediments to effective competition are market imperfections: barriers-to-entry, complex dynamic pricing, and mergers.

Section 2 will present the basic concepts of competition. Section 3 will briefly note some of the main historical lessons of deregulation since 1960. Section 4 will illustrate that the possible harms of regulation for telephones and electricity have probably been small. Finally, section 5 will discuss some current problems with the deregulation of the telecommunications and (for comparison) electric industries. Section 6 will conclude by summarizing the policy lessons.

2. EFFECTIVE COMPETITION

2.1 Market Imperfections

The first point of analysis concerns the assumption that there are substantial market imperfections in the telecommunications and electric industries. Some of the recent literature in this field, and many policy steps since about 1975, have assumed the opposite: that markets are essentially well functioning and close to perfection. Firms can quickly and costlessly obtain full information, overcome irrationalities, enter markets, and adopt new technologies. Theoretical attention is then focused on the pure properties of static efficiency, or game outcomes that these rapid and full adjustments will provide.

In such a transparent and instantaneous world (often called a “Chicago world”), theory commonly suggests that market outcomes will come close to the ideal or even fit the ideal precisely. Monopoly or dominance is seen as a relatively rare and brief exception, and tight-oligopoly collusion is usually thought to be mild at most. In any event, the theory goes, collusion will disintegrate quickly due to internal cheating.

This theorist’s pure world is the basic foundation of much of the post-1970 “new IO” theory advances and insights. The theory is primarily concerned with the maximization of consumer surpluses under static allocation, rather than the burdens of X-inefficiency and retarded innovation.

Such a pure analysis can give insights, but the difficult task is to apply those lessons to the gritty realities of actual markets, especially those that are inhabited by aggressively dominant firms. Actual situations present many kinds of considerable and stubborn imperfections. The literature has identified nearly twenty types, which are listed in Table 1.

There may be major conditions which keep markets far from realizing ideal outcomes. Chicago School assumptions of market perfection have provided little hard evidence. In any event, mere assumptions are hazardous; each real market requires a careful, individual appraisal.

Table 1 Categories of Market Imperfections

1. Pecuniary Gains May Be Obtained by Some Firms. They occur when a firm makes financial gains (e.g., lower input prices) without efficiency gains. These pecuniary gains let the firm obtain excess profits even when the firm is not really more efficient. In telecommunications, a dominant firm might gain cheaper input prices, which would give it an advantage as a competitor.

2. Consumers May Exhibit Irrational Behavior. Some buyers may have preferences that are poorly formed or unstable. They may be deeply loyal to a supplier without any basis other than habit. In telecommunications many smaller customers may be reluctant to consider new suppliers; that puts them in the role of “captive customers.” These loyalties may be created or intensified by advertising, which is designed to steer consumer choices. The loyalties may permit the charging of supra-normal prices, not based on efficiency.

3. Producers May Exhibit Irrational Behavior.

4. There May Be Large Uncertainties, Which Interfere with Rational and Consistent Decisions by Consumers and/or Producers. Main elements of decision situations may be unknown, or may be known to change unpredictably so that consumers or producers cannot make well-informed decisions.

5. Lags May Occur in the Decisions and/or Actions of Consumers or Producers. Actions may not be prompt; this would allow other firms to take strategic actions which could prevent competition. Consumers and rivals may be sluggish.

6. Some Firms' Managers May Also Hold Non-rational Loyalties.

7. The Segmenting of Markets May Be Accentuated and Exploited. If producers can segregate customers on the basis of their demand attributes, then the producers may be able to use price discrimination strategically in order to extend and sustain monopoly power. Segmenting also permits a maximizing of the monopoly profits, which could be used in later strategic efforts. This segmenting violates the single-good, single-price assumptions of the simple pure-market case. It can prevent effective competition by rivals and entrants throughout the whole of the market. In telecommunications, the existing price discrimination among customer groups may be made even sharper. Dominant firms may develop extreme price discounting so as to repel competition.

8. Differences in Access to Information, Including Secrecy. If some firms have superior knowledge as compared to their rivals and/or consumers, then these firms may gain excess profits without having higher efficiency. The patterns of innovation may also be distorted. Dominant firms may be particularly able to accentuate the unevenness in access to information, to the point of complete secrecy about crucial information.

9. Controls Over Key Inputs and Technology. Firms may obtain specific controls over crucial inputs, such as superior ores, favorable geographic or urban locations, access to markets, and patents or other access to critical technology. These controls may

Table 1 Categories of Market Imperfections

10. Barriers Against New Competition. New entry may be blocked or hampered by a variety of conditions which raise entry barriers. Some economic causes of barriers may be “exogenous,” that is, basic to the market. Other barriers may be “endogenous,” created deliberately by voluntary actions of the incumbent firms. The barriers may occur both at the outside edges of the market and among segments of the market.

11. Risk Aversion. Some consumers and/or producers may be strongly risk averse.

12. Transactions Costs and Excess Capacity May Be Significant.

13. Firms May Have Sunk Costs, Including Excess Capacity and Switching Costs That Arise from Past Commitments. These sunk costs may prevent the firms from making free adjustments. They may also curtail or prevent new competition. In telecommunications, there may be substantial amounts of obsolete capacity.

14. Because of Principal-Agent Problems, Firms May Deviate from Profit-maximizing.

15. Internal Distortions in Information, Decision-making and Incentives May Cause X-Inefficiency and Distorted Decisions.

16. Shareholder and Other Financial Owners of the Firm's Securities May Be Unable to Coordinate Their Interests and Actions Perfectly.

17. In International Markets, There May Be Artificial Exclusionary Conditions, Including Barriers at Borders.

18. In International Markets, Firms May Have Differences in Information About Languages and Cross-Cultural Variations.

Notes: The imperfections most clearly relevant to telecommunications are discussed in more detail.

2.2 Market Dominance is Usually Ineffective Competition

My second point is related to the presence of market imperfections: market dominance is usually inconsistent with effective competition. The literature has defined dominance primarily by structure: one firm has over 40 to 50 percent of the market, there is no close rival, and there are barriers-to-entry. Dominance is an inevitable transition phase when moving from monopoly all the way to effective competition. And it can be a stable condition in which the deregulatory process gets stalled.

Under dominance, two main principles of competition are violated. First, there are not enough comparable rivals to assure against collusion. Generally, at least five worthy rivals are necessary in order for effective competition to operate. Otherwise, the tendency to collude would be too strong and would frequently succeed. The literature reached a consensus on this matter long ago. It has included such varied discussants as George

Stigler (1968), Carl Kaysen and Donald Turner (1959), and others cited in F.M. Scherer and David Ross (1991). Economic theory shows the need for numerous independent competitors, and antitrust enforcement posits low concentration as being necessary for effective competition.⁴

And yet some free-market economists commonly assert that two or three competitors are enough to guarantee effective rivalry, even if one of the firms has more than 80 percent of the market. In seminars, they often deny making such an extreme claim; but in policy forums, they regularly assert it without reserve.

Second, competitive parity among rivals is lacking. Competition is effective only when competitors apply strong mutual pressure that restrains prices down to cost and compels excellent performance. When one firm has an overwhelmingly large market share, the dominant supplier can apply competitive actions that are not available to its smaller rivals. The situation is comparable to heavyweight boxers against flyweights. The dominant heavyweight firm is not pressed to do well, and its flyweight rivals are unable to compete evenly.

Exceptional cases may occur, of course, in which the smaller company has some advantage that helps it to survive or even compete with a much more powerful rival. But the dominant firm will almost always have advantages arising from real market imperfections, and it can often create or enlarge those imperfections. Hence, dominance prevents the necessary parity.

2.3 Counter-Arguments

There are two leading counter-arguments in defense of market dominance. One is the suggestion that market share does not really matter any more. This is often offered as part of a general rejection of “a reliance on obsolete ideas of market structure.” But that assertion is only a simplistic claim.

In fact, no serious economist of any viewpoint has ever said that structure (including market shares) is a tight determinant. Many mainstream economists have said that structure (which includes market share) is often an important indicator of possible market power; it establishes a likelihood that can be rebutted by good evidence. Business experience (including the universal struggle for market share in real markets) strongly affirms that fact.

As for the high market shares themselves, they might lose significance if they were entirely vulnerable to new entry or to attack by existing small firms. That situation is often called “free entry.” But the freeness of entry is a very demanding condition, one which includes the theoretical ideal of “perfect contestability.”

Free entry is a complicated matter, whose existence must be proven with convincing evidence. It is necessary to show that existing small firms (not just new entrants) are able to displace the dominant firm completely and instantly. If not, the dominant firm still retains substantial market power.

A second counter-argument is that the dominant company may possess greater efficiency, which is the true source of its control. Then a social trade-off might have to be made between efficiency and competition (the anciently recognized “antitrust dilemma”). Such cases may indeed happen (in single-product or multi-product dimensions). Still, there must be genuine proof, not just assertion, as well as a recognition that a natural monopoly suggests the need for regulatory constraints of some kind.

Returning to the main theme; dominance tends to stabilize and persist rather than decline toward effective competition. The two or three small fringe competitors often adopt passive, cooperative behavior as part of their joint maximizing approach. The result is soft competition or effective collusion, instead of hard effective competition.

Furthermore, the market must evolve from tight oligopoly to loose oligopoly. The dominant firm must eventually become “just another significant competitor,” rather than remain “the” telephone company or “the” electric company.

That shrinkage of market position jars many observers, who wish to believe that AT&T or the local electric utility will continue to dominate the industry even under effective competition. Yet these observers would not say the same of any normal competitive market, in which each firm is appropriately subject to the risk of losing market share or of being eliminated. Indeed, even economists who accept or extol the harshness of competition seem unable to admit that the old monopolist must face a diminished role, just like any other competitor.

2.4 Dominant-Firm Inefficiencies

Some dominant firms do encounter troubles, as IBM’s and GM’s performance since 1970 graphically illustrates. By 1988-1992 these companies were in deep crisis, because they had failed to maintain efficiency and to innovate. They only began to emerge from convulsive changes by 1994.

But such negative cases actually prove my point. The poor performance of IBM and GM was engendered partly by the insulation from competitive pressure afforded by their market power. IBM was not forced to perform well by its small rivals, and it did not. Yet the company was able to retain its dominance well into the 1980s, long after its internal efficiency had deteriorated.⁵

Those of us who mounted the ultimately unsuccessful effort to cure IBM’s dominance via the Antitrust Division’s 1969 suit knew quite well that we were trying to rescue IBM from itself—and particularly from its bellicose lawyers (Shepherd, 1994). But their lawyers won; the IBM company itself, its shareholders, workers, and suppliers lost (even though new management was able to recover some of the lost ground after 1994). Much the same thing happened to General Motors.⁶

Accordingly, a prime task of deregulation is to prevent the entrenchment of market dominance. Once the dominance has hardened, antitrust can usually do little about it without resorting to quixotic litigation and remedies. Claims about free entry in particular must be coolly assessed, and unless overwhelming evidence is present, denied. IBM and GM alleged that they were under competitive pressure and entry. Accepting those assertions was a classic error that could recur under deregulation.

Yet there continues to be loose talk about free entry in the deregulatory literature and in the proceedings. Economists may testify that actual entry is positively and completely free, which would indicate that the overwhelming dominance of the former monopolist could be ignored, along with the firm’s sustained high profit rates. The disciplinary impact of competition may be said to exist even if there is no new entry, nor any rise in market position by little rivals.

2.5 Economic Entry Barriers

When examining the question of entry barriers, it is simply an error to equate physical ease of connection (“Merely turn the on-switch”) or legal access (“Anybody has the legal right to enter this business”) with economic free entry. Economic barriers can arise from more than twenty sources, as noted in Table 2.

One main barrier is that the majority of business in the market is, by definition, already in the dominant firm’s customer base. Although theoretically those customers could be lured away, in practice the luring can be extremely difficult. The dominant firm often benefits from customer inertia, past reputation, long-standing physical arrangements, more extensive network facilities, and superior knowledge.

Table 2 Common Causes of Entry Barriers

I. Exogenous Factors: External Sources of Barriers

1. *Capital Requirements*: related to minimum efficient scale (MES) of plants and firms, capital intensity, and capital-market imperfections.
2. *Economies of Scale*: both technical and pecuniary, which require large-scale entry, with greater costs, risks, and intensity of retaliation.
3. *Absolute Cost Advantages*: many possible causes, including lower wage rates and lower-cost technology.
4. *Product Differentiation*: may be extensive.
5. *Sunk Costs*: any cost incurred by an entrant which cannot be recovered upon exit.
6. *Research and Development Intensity*: requires entrants to spend heavily on new technology and products.
7. *High Durability of Firm-Specific Capital (Asset Specificity)*: imposes costs for creating narrow-use assets for entry, and losses if entry fails.
8. *Vertical Integration*: may require entry at two or more stages of production, for survival; raises costs and risks.
9. *Diversification by Incumbents*: massed resources redeployed among diverse branches may defeat entrants.
10. *Switching Costs*: complex systems may entail costs of commitment and training, which impede switching to other systems.
11. *Special Risks and Uncertainties of Entry*: entrants’ higher risks may raise their costs of capital.
12. *Gaps and Asymmetries of Information*: better information lets incumbents bar entrants and raise entrants’ cost of capital.

Table 2 Common Causes of Entry Barriers

13. *Formal, Official Barriers Set by Government Agencies or Industry-wide Groups*: examples are utility franchises, bank-entry limits, and foreign trade duties and barriers.

II. Endogenous Factors: Voluntary and Strategic Sources of Barriers

1. *Pre-emptive and Retaliatory Actions by Incumbents*: including selective price discounts to deter or punish entry.

2. *Excess Capacity*: the incumbent's excess capacity lets it retaliate sharply, or threaten to retaliate.

3. *Selling Expenses, Including Advertising*: increases the degree of product differentiation.

4. *Segmenting of the Market*: segregates customer groups by demand elasticities and makes broad entry more difficult.

5. *Patents*: may provide exclusive control over critical or lower-cost technology and products.

6. *Exclusive Controls over Other Strategic Resources*: such as superior ores, best locations, and unique talents of personnel.

7. *Raising Rivals' Costs*: actions which require entrants to incur extra costs.

8. *"Packing the Product Space"*: may occur in industries with high product differentiation.

9. *Secrecy About Crucial Competitive Conditions*: specific actions may create secrecy about key conditions.

Moreover, the leading incumbent can usually segment its wide variety of consumers to extract maximum revenue. It can also use complex pinpoint pricing to target and deter specific competitors in submarkets. One such example is AT&T's post-divestiture behavior in the long-distance market. By tailoring over 100 discount deals with its major customers during the period 1989-96, AT&T stabilized its dominance at about 60 to 65 percent of the market.

Barriers are usually hard to define and measure. So is entry itself. Entry involves the incoming firm's ability to take a significant market share rapidly so that it is fully established and able to compete with the leading companies. "Niche entry" is scarcely significant, and neither is shallow entry, which involves reselling telecommunications capacity. And any entry must be netted against exit during the same period.

Merely counting entrants will not do, because small companies have little effect on industry performance. A churning among the fringe matters little. One must consider only

the market share that is firmly established by newcomers, as this comes out of the leading firms' market shares.

Now consider potential entry, emphasized since 1981 by Baumol and others. In theory it can discipline existing dominance, and the extreme form of perfect contestability might nullify even pure monopoly (but see Schwartz, 1986; and Shepherd, 1984). Contestability's advocates have praised the theory for its insights and interest as pure theory.⁷

The antitrust guidelines' literature has further elevated potential entry to major importance. Firms in adjacent markets or with similar technology are even referred to as "uncommitted entrants" (Shepherd, 1993). Unfortunately, such phrasing confuses and distorts the process of defining markets. If firms are outside the market, they might consider going in, but that is merely future speculation. The possibility of future entry often depends on complex technology, intentions, alternative profit alternatives, likely retaliation by incumbents, and uncertainty.⁸

In sum, market dominance (and tight oligopoly) usually involves ineffective competition. Entry in such cases is usually not free, unless there is strong contrary evidence. Therefore, to deregulate in such cases would often be premature deregulation.

2.6 Innovation and X-efficiency

Innovation is often a more important goal than is static allocative efficiency. Monopoly power has a well known tendency to retard innovation (though possibly not invention) and to breed X-inefficiency (on the definition of X-inefficiency, see Leibenstein, 1976; and Shepherd, 1997). Yet much recent theory about regulated monopolies, dominant firms, and entry has ignored innovation and X-efficiency. Hence, policy lessons based only on static efficiency may be unreliable.

Altogether, the transition to effective competition is a complex, often lengthy process, which may get stalled in dominance or tight oligopoly. The leading firms often declare that competition is entirely effective, even when it is not. At policy hearings, experts may claim that the dominant firms face immediate ouster, when in fact their dominance is strong, their profits are high, their actual competitors are weak, and there are high barriers against new entrants.

2.7 Core Services

The industry may contain core services, which are necessary as the platform or conduit for the rest of the services.⁹ Examples are airports for airlines, rails for railroads, a backup network for telephony, and the local electric distribution system. That core is the responsibility of the monopolist, as part of its "social contract" as a ratified natural monopolist.

As competition increases and the monopolist's dominance shrinks, the status of the core services may come into doubt. The dominant firm's obligation to provide these core products fades and—as dominance is eliminated—eventually disappears. Then no one is responsible, and that may seem intolerably risky.

There are two solutions. First, the core services can be furnished by a separate body, perhaps a neutral public enterprise or set of local firms. This is done by the Federal

Aviation Administration (FAA) and by the system of local/regional airport authorities. In the electric industry, the coming separation of local distribution from generation and transmission will be the key step, which will permit competition among sellers of electricity.

Second, "the market" can collectively provide the coverage. All normal competitive markets have no required provider of core products (if there is a core). Together, all the firms provide sufficient coverage. If one fails, there are others to turn take up the slack.

2.8 Later Mergers

Deregulation and the creation of effective competition is not the end of the policy problem. There remains a need to retain competition by applying antitrust policy. Yet the prospect or actual rise of new competition in a market often stimulates the incumbent firm's efforts to merge so as to avoid or reduce the new competition.

The mergers may occur in advance of the deregulation, as has been evidenced with many electric during 1993-1996. Or they may come years later. For example, the airlines' mergers which took place during 1985-1989 has reduced the strong competition that reigned during 1978-1984. Likewise, railroad mergers after 1994 have raised market power in many sections of the U.S. In such situations, if antitrust criteria are not applied firmly and promptly, deregulation will be deflected and the market will revert into a haven for new, unregulated monopoly.

Unfortunately, the U.S. antitrust agencies' merger policies may be weak and inadequate. This was the case with mergers in the airline industry during much of the Reagan-Bush period of 1980-1992. It may be happening again with the wave of mergers occurring in the telecommunications and electric fields since 1992. Each case needs thorough study, even in the midst of industry pressures.

3. HISTORICAL EXPERIENCE

A brief historical word can clarify these issues. Regulatory policies and the research literature have both gone through distinct historical phases. Standard utility regulation began in approximately 1905. It spread in the 1930s, and by the 1960s it was being applied moderately well (Kahn, 1971). Economic criticisms that transport regulation was protecting monopolies and reducing potential efficiency gains began in the 1950s. After 1968, there were sharp new environmental and price-inflation pressures on the utilities.¹⁰

Yet many of the utilities defended regulation and tried to strengthen its protections for their monopolies, as with AT&T's unsuccessful efforts to extend its monopoly with the "Bell Bill" of 1976. Even so, after about 1975 a campaign for deregulation developed among economists, politicians, companies and other groups. It spread to the gas, telephone, cable TV, railroad, trucking, airline, bus, and electric sectors as well as others.

After these changes, the 1990s are a period of reassessment, especially in the airline, telecommunications, and railroad industries. And major steps toward more deregulation are underway in the electric field.

3.1 The Shrinkage of Natural Monopoly

The scope of actual “natural monopolies” (with economies of scale so large that competition is not viable) has receded markedly in many industries. But that does not assure an easy transition to competition; the shift from natural monopoly to natural competition is long and complex. When optimal scale shrinks below the level of pure natural monopoly, it may stop at “natural dominance” or “natural tight oligopoly” rather than jump all the way to the “natural-effective-competition” extreme. Moreover, the dominant firm may create and exploit market imperfections to deter effective competition.¹¹ That may protect dominance even when the technology would permit full competition.

During the period from 1900 to 1960, the scope of natural-monopoly thinking was expansive. It included large blocks of the economy, particularly in three sectors: energy (electric and natural gas), communications (telephones, postal services, and cable TV), and transportation (railroads, airlines, intercity buses).¹² Also, a range of urban services (such as water and transit services) were regarded as natural monopolies requiring regulation and/or public ownership.

Natural monopoly was thought to justify regulating whole sectors, including most or all of the telephone and electric industries. By 1960 natural-monopoly conditions were receding in some sectors, while other regulated industries (airlines, trucking, many railroads, natural gas production) never really had them. By the 1970s a new realism about natural monopoly had taken hold (Capron, 1971; Phillips, 1975).

The 1980s saw the further erosion of natural monopoly, and by 1993 the situations of complete natural monopoly may have dwindled to include mainly certain urban services (Shepherd, 1997; Posner, 1969; and Noll, 1976). And even some of these local monopolies also may now be eligible for competition and deregulation with electricity being the leading example.

Even where “natural competition” conditions exist, there may be some other specific monopoly-creating circumstances. Monopoly and/or dominance can also be created or enforced by specific controls, such as ownership of a crucial “bottleneck” facility which competitors must use in order to compete. Even if “natural competition” conditions do exist, the control of a bottleneck may make the competition ineffective.

3.2 Current Conditions

In sum, the conditions which justify some degree of regulation include: 1) technology-dictated natural monopoly; 2) a utility firm that retains dominance or leadership of a tight oligopoly that is likely to continue; and 3) dominance or tight oligopoly with specific control over access to the market by means of bottleneck facilities. As of 1997, such cases probably still include most local urban services, especially electric, telephone, postal delivery, water, gas, cable TV, and transit.

In many other markets, “natural dominance” or “natural oligopoly” may exist. And in many markets that could be “naturally” competitive, there remains dominance or a tight oligopoly. Long-distance telephone service, numerous airline “fortress hubs,” and many railroad transportation markets are examples.

The mixed monopoly-competitive cases may involve cross-subsidizing and the blocking of competition. The correct policy choices require complex judgments, even in the heat of industry pressures and incentives to overstate the case for deregulation.

4. RESULTS OF DEREGULATION

Despite popular claims that regulation has caused great inefficiency, objective research has suggested that regulation has had only moderate effects on the inefficiency of the telecommunications and electric utilities (see Shepherd, 1992, for a review). The need for rapid deregulation has therefore been less urgent than is often stated. Meanwhile, the actual gains under deregulation so far have been substantial but not ubiquitous.

The leading cases of deregulatory success are the airlines and long-distance telephone service; I also have some brief comments on the electric industry.

4.1 Airline Deregulation

Deregulation began in 1977. Strong competition probably yielded major efficiency gains by 1984, though there is debate as to the amount of the benefits (Morrison and Winston, 1993). Unfortunately, major mergers among airlines were then permitted during 1985-88, and systematic price discrimination became common. "Fortress hubs" (dominated by one or two airlines) emerged at many major airports, which resulted in high degrees of market dominance.

The dominant airlines raised their fares significantly, compared to the other carriers' fares. These hubs proved to be largely immune from new entry, which belied the "contestability" theorists. It also helped the airlines to avoid major gains in efficiency via cost-cutting. In the 1990s there were still large variations in cost levels among airlines. The airlines also developed a fantastically thorough ability to set and adjust discriminatory pricing.

In certain ways—local monopolies, price raising, a lack of free entry, persistence of X-inefficiency, and systematic price discrimination—the industry has deviated from earlier predictions of the outcome of deregulation. These deviations were based on the formation of fortress hubs, which in turn stemmed partly from mergers that should have been prevented under the antitrust laws.

The high costs and fares of the major airlines have finally attracted effective competition from Southwest Airlines and some new low-fare airlines. But some of them (ValuJet, Kiwi) have been nearly or entirely eliminated, and how marked the changes will eventually be is still unknown.

4.2 Long-Distance Competition¹³

The main pattern has been the opening of entry in the 1970s, forced by MCI. It led to the presence of MCI, U.S. Sprint, and a variety of tiny firms and re-sellers. AT&T's market share dropped by about four points per year between 1984 and 1989. Eventually, it reached the middle 60 percent range. Then it stabilized, and in 1994 it remains above 60

percent. With MCI near 20 percent and U.S. Sprint at about 10 percent, we now have a classic dominant-firm case, which will apparently remain stable for years to come.

No substantial entry has occurred recently, nor is it likely to in the near future. MCI and U.S. Sprint are as dedicated to deterring new entry as is AT&T. In fact, it is fair to say that entry has been effectively blocked for at least five years.

Price competition has become relatively moderate in this market, regardless of the lively advertising rivalry that is seen on television. The three firms' prices have been roughly parallel since 1986, after an initial period of sharp price-cutting by MCI and U.S. Sprint to break into the market. The general pattern is the standard tight-oligopoly avoidance of direct, deep price competition.

Of course there is still strategic pricing by AT&T for specific customers. Pricing now involves complex price discrimination among significant business customers, especially by AT&T. Under pricing versions called Tariffs 12 and 15, AT&T has made separate discounting deals with over 100 major companies. By targeting specific customers, AT&T can block MCI and U.S. Sprint from encroaching on its prime customer base.

During 1984-89, while AT&T was moderately regulated, its market share declined by about four points per year, from 90 percent to the 60-70 percent range. When the FCC effectively removed all regulation in 1989, AT&T's share suddenly stabilized and stayed constant during 1989-1995. AT&T's profitability has been very high, probably well over 20 percent on investment, while MCI and U.S. Sprint approached modest profitability only after nearly ten years. AT&T faced less risk, and so its comparative profitability was even higher.

These conditions strongly undercut the hypothesis that entry is free, easy, or even reasonably possible. Apart from niche firms, entry has been largely closed since MCI and Sprint entered. Until 1996 the two existing rivals seemed unable to take much market share away from AT&T. Between 1985 and 1995, AT&T had a stable, acceptable situation, with two relatively non-threatening smaller rivals but the appearance of strong competition.

There are counter-arguments to this pessimistic view. First, AT&T claims that its competitors have overbuilt capacity in order to be able to take away AT&T customers. Yet, as noted earlier, this excess capacity is primarily a burden rather than a competitive force. It is excess precisely because AT&T can still protect its customer base. Moreover, the consumers that they have lost are the relatively easy, price-sensitive ones. AT&T's remaining base contains its more loyal, inelastic-demand customers, who will be progressively harder to lure away.

Second, pinpoint pricing by AT&T is competition, but its result will not generally provide effective competition. Such strategic pricing is part of the dynamic process of interactive competition, which is not dealt with by static theories of allocation. The pricing has helped to stabilize AT&T's market position by deterring the loss of specific customers while keeping the revenue loss to a minimum. The FCC has encouraged this pinpoint pricing by applying price caps which permit it, as well as by adopting Tariffs 12 and 15.

In sum, the deregulation of long-distance service had not succeeded by 1996. Though AT&T seemed to have lost its competitive edge by then, the prospects for ending its dominance were unsure. The transition to a competitive market has stalled, and instead a situation of market dominance mixed with tight oligopoly prevails. AT&T's profitable long-distance dominance, paralleled by comparable dominance in many states, continues

as a problem for antitrust, comparable to IBM and General Motors in earlier decades. The FCC's and many states' deregulation in the 1980s was premature, because they deregulated before the pre-conditions of effective competition were in place. Antitrust has great difficulties with single-firm dominance and tight oligopoly. The prospects for fully effective competition are not clear in this case.

4.3 Local-Service Competition

Local markets are developing competitive possibilities, but rivalry here is much more embryonic than it is in the long-distance markets. Some major cities have undergone specific entry by new providers, such as Teleport. But elsewhere the new competition is less tangible.

In addition, there is some degree of cellular-phone rivalry, plus the possibilities of "personal communications systems" and of cable entry into the local switching activity. Here it is important to be realistic about the degree and timing of these new "entrants." All of them appear so far to be marginal and vulnerable. None of them offers full competition, nor are they likely to do so very soon. They will probably nibble at the corners of the market for many years before becoming full challengers to the local systems.

The 1996 Telecommunications Act was meant to allow mutual invasions by local and long-distance firms, but it may be stalled for years. Even the more optimistic observers expect that rivalry will take only small bites out of the Baby Bells' monopolies.

Of course, one can be optimistic and hope that the entrants will make rapid inroads. Seeing such "free entry," one might press now for deregulation. Yet that would be hazardous and premature, for all the reasons that I have noted in the preceding pages. First, entry is a matter of economics, not just technology and legal provisions. Currently, newcomers have little chance for substantial inroads in these markets.

Second, the dominant firms can take steps to make entry even more difficult, through pinpoint pricing strategies, legal tactics, and advertising. They can try to co-opt the technology itself. They can also seek rapid mergers and alliances with potential competitors, just as is happening now with cable TV owners.

So local-service competition may be preempted by mergers among the various modes (telephone exchange firms and entrants, cable TV firms, cellular systems, and personal communications devices). This is the nearly universal response to new competition. The only impediment to it would be actions by antitrust and regulatory agencies.

The incumbents' aim will be to permit a modicum of entry so that a little competition comes into being. Then they will take steps to keep their rivals small and to deter any more newcomers. The entrants, in turn, will join in actions to prevent any additional entry, so as to survive. For political advantage, the situation will seem to have competition, though it will be ineffectual.

These restraints will not succeed if technological revolutions and shifts in customer attitudes really are sweeping the marketplace more forcefully than AT&T and the Bell companies can take steps to deal with them. But the "revolutions" have been greatly hyped since the 1950s, and the current overstatements may be no different.

There is an urgent need to appraise the current crop of "revolutions" and mergers coldly. An overly optimistic outlook has bred unwise actions in the long-distance market

before. It would be regrettable, even embarrassing, to be misled into naive policy actions again.

4.4 Electric Markets

I will mention electric markets only briefly. Some bulk power markets have moved toward effective competition since the 1970s.¹⁴ Congress has made major policy changes to promote rivalry, particularly by requiring electric utilities to accept power from cogeneration sources. Also, policies have moved toward requiring systems to wield power from competing sources. That would keep large private systems from using their control of transmission lines to quell competition for bulk supplies.

But it is not yet clear that many regions have developed fully effective rivalry in full-requirements bulk power, as distinct from spot power. Many customers have a limited selection for their key power needs. They have to choose among a few comparably priced rivals. Meanwhile, since 1990, a series of major mergers and proposals has posed significant increases in market power, even before competition is fully established. Some of the mergers have occurred, and others are likely to be approved eventually.

Moreover, a wave of special price discounting for large customers has been spreading since 1992. Tables 3 and 4 summarize some of the discounting. Much of it has been kept secret for extended time periods of up to ten years. This discounting threatens to block effective competition, before it can get well under way. Its impact is to lock up many of the best customers before the newcomers have a chance to compete.

The secrecy and long duration tend to sharpen the anti-competitive influences. The discounts are also unfair, because they are occurring before small customers have a chance to obtain them. When "full consumer choice" is finally reached (planned for 2001 or later in most areas), small-volume consumers are likely to face price increases, not reductions. Amid the wave of discounting, the only feasible safeguards may be to make the discount period short and have it fully disclosed.

5. SUMMARY

The primary danger is premature deregulation. It is more likely to occur when regulation's harms are exaggerated, and competition is seen as being easier to create than it is. Both of these illusions have existed and have biased policies since the 1970s. As a result, some markets may be stalled in a stable condition of market dominance, with soft competition, high profitability, pinpoint pricing to block competition, and a retardation of innovation.

Table 3 Discount Prices to Large Electricity Customers by Five Selected Utility Firms as of April 1996

Utility	Customers	Discounts
Boston Edison	Largest 12 customers if they show intent to move out of state; already includes Raytheon, Polaroid, and Digital Equipment	20 percent for up to 4 years
Niagara Mohawk	72 large companies including Lockheed, Church & Dwight	\$66 million per year
Detroit Edison	General Motors, Ford, and Chrysler	10-20 percent at 54 plants for 10 years
Consumers Power	General Motors, Dow Corning, and Upjohn	10 percent for 5-10 years
Pacific Gas & Electric	Some of the 100 largest customers, including Exxon, Chevron, and Hewlett-Packard	\$70 million per year

Source: Agis Salpukas, "Utilities Rewrite the Rate Card," *New York Times* (5 April 1996), pp. D1, D6.

Table 4 Selected Additional Permissive Regulatory Rules or Instances of Price Discrimination as of September 1996

State, Date	Conditions
Arizona, March 1996	Pricing Flexibility Rider Rate No. 79. Permits "negotiated prices" under a "comparative tariff." Formally limited to business-retention situations.
California, October 1995	Public Utility Commission approved a set of "preapproved generic discount" contract rate options for large industrial and commercial customers.
Illinois, October 1995	There are special contracts with at least eleven large customers. Secrecy was barred in 1995 by the Illinois Appellate Court, but legislation to allow secret rates was passed by the legislature in July 1996. Formally special rates can be offered only to prevent "uneconomic bypass."
Indiana, September 1995 to January 1996	Approved at least three special discounts for large customers on a business-retention basis.

Table 4 Selected Additional Permissive Regulatory Rules or Instances of Price Discrimination as of September 1996

State, Date	Conditions
Massachusetts, July 1996	Scores of secret discounts have been approved by the regulatory agency.
Mississippi, 1996	Permits secret electric utility discounts.
Nevada, 1996	Permits discount rates but not secrecy.
New Hampshire, July 1996	Has allowed special discounts for large industrial customers, but not secrecy. But discounts have been resisted and the issue is under hearing and consideration.
New Jersey, October 1995	Secret "off tariff" discounts of up to seven years are permitted under new rules of the NJ Board of Public Utilities.
New Mexico, 1992	Secret load-retention contracts were permitted. Now all rates are on the public record.
Ohio, Spring 1995	Regulators approved a secret discount for American Steel & Wire Corp.
Oklahoma, June 1995	Public Corporation Commission permits the two utilities to offer special rates, but only for ten customers during a test period of two years.
Pennsylvania, Since 1996	Special secret discounts have been permitted since 1992.
Utah, Since 1992	Permits secret discounts, including incentive rates.
Washington, By 1996	Puget Sound Power & Light has had at least two confidential discount contracts with large customers, but has not fought publication when it was requested.

Sources: Various issues of *Public Utilities Fortnightly*, *Electric Utility Week*, Agency Decisions, *Electric Power Alert*, and *Electricity Daily*.

The following standard errors make premature deregulation more likely. First, market structure (including overwhelming dominance) is said to be quite irrelevant now, under the "new" conditions. Second, new technology is said to be under "revolutionary" change, which will eliminate market boundaries and allow free entry. Third, market imperfections are said to be insignificant. Fourth, dominant firms claim to be at the mercy even of tiny rivals. Entry is said to be free or even perfectly "contestable," even if the barriers are high.

Fifth, soft competition in pricing is confused with sharp competition by (e.g.) citing television advertising. Sixth, pinpoint pricing by the dominant firm is said to be harmless, or even necessary for optimality along “Ramsey pricing” lines. Seventh, any leading-firm actions that undermine small rivals (even if there are only one or two) are said to be acceptable by definition, because harms to competitors “can never be harms to competition.” And eighth, high profitability by dominant firms is said to be merely random, or transient, or irrelevant to efficiency, or well-deserved for the firms’ innovative excellence.

Accordingly the standard indications of monopoly power and anticompetitive actions are simply denied. And the current regulatory officials are placed under pressure to ignore the basic guidelines of competitive policies.

Successful deregulation has a number of demanding steps. First, it is necessary to identify and monitor the true elements of monopoly: high market share, few suppliers (collusion), and entry barriers (within and into the market). Second, anticompetitive mergers must be prevented both before and after the competition gets started. Third, strong measures are needed to keep entry open and to mandate equal access, which includes guaranteeing free access for later entrants, rather than just assuming that if a few have entered then entry will be easy. And fourth, the dominant firm must be prevented from obtaining overwhelming advantages. If it does, then competition is not effective. If the cause of advantages is technology, then naturally-competitive conditions may not really exist, and the effort at competition is futile.

Finally, there are the basic guidelines for deregulation. First, specific constraints should be applied to the dominant firm, until it is no longer dominant. In particular, those constraints will cover pinpoint pricing and mergers. Second, there should be at least five reasonably comparable rivals, before the market is certified as effectively competitive. And third, dominant firms should be prevented from using the excess profits in related services to destabilize competition. In such cases the harm can also go either way; the link to the utility monopoly may provide anticompetitive advantages to the adjacent monopolist as well.

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NOTES

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2. For an early statement of the many problems facing deregulation, see Shepherd (1973).
3. Moreover, the Act's application was suspended by a federal court decision in October 1996 for at least a year, while the Baby Bells appeal FCC rulings that they regarded as unfavorable to them.
4. The antitrust agencies' Merger Guidelines (1992), for example, have long set a threshold Hirschman-Herfindahl Index level of about 2,000 as the minimum to avoid cooperative tendencies; see Shepherd (1997) and Scherer and Ross (1991). An HHI level of 2,000 requires a minimum of 5 equal-share competitors.
5. See the discussion of IBM's deep problems in Shepherd (1997); see also Shepherd (1994) for a discussion of the severe impact on IBM stockholders.
6. By 1992 the shareholders of each company suffered a drop in stock market value of more than \$60 billion (Shepherd, 1994). Breaking up the Bell System in 1984 provided a starkly contrasting positive result, where nearly everybody gained because the rise in competition brought dramatic increases in efficiency and innovativeness. The stockholders of the Bell System gained approximately \$100 billion from 1984 to 1992.
7. See for example Baumol and Willig (1986). But contestability remains a deceptive guide for practical decisions about real markets, as I have recently noted (Shepherd, 1995).
8. For example, entry against a dominant firm is much more hazardous than against an array of little competitors, but the notion of "uncommitted entrants" does not recognize that distinction.
9. For more detailed discussion of core services, see Shepherd (1983) and (1987).
10. See Capron (1971) and Phillips (1975) for research and policy advice strongly advocating deregulation and the creation of effective competition.
11. For discussions of the concepts of natural monopolies and the proper scope of regulation, see Bonbright (1962), Kahn (1971), Schmalensee (1979), and Baumol, Panzar and Willig (1982).
12. See Bonbright (1962), Kahn (1971), and Schmalensee (1979).

13. This section draws on Shepherd and Graniere (1990) and my chapter on telecommunications in Deutsch (1993).

14. For early analyses, see Meeks (1972) and Leonard W. Weiss's chapter in Phillips (1975); see also Joskow and Schmalensee (1984) and (1986).