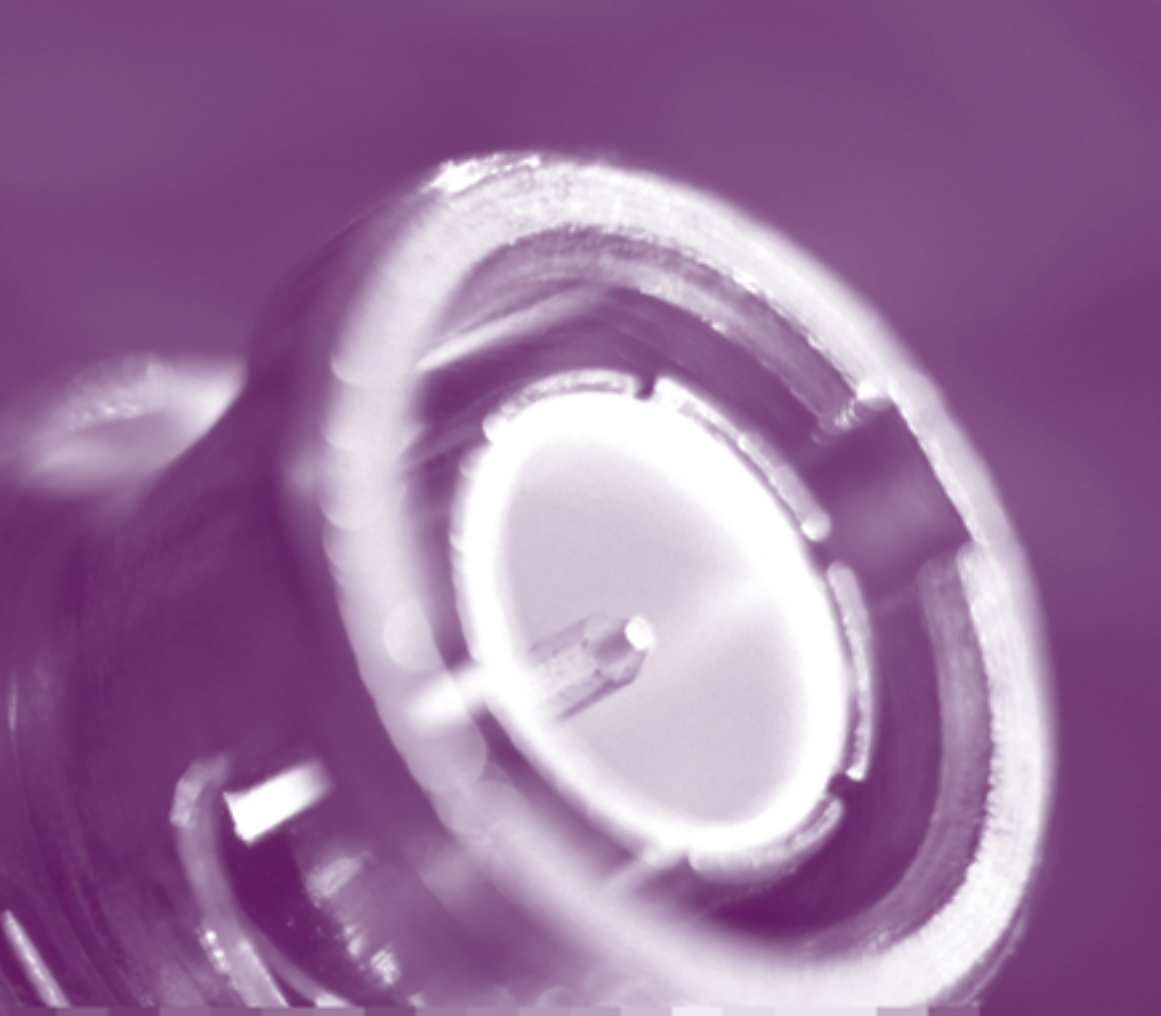

Cable Mergers and Monopolies

Market power in digital media and communications networks

by Mark Cooper

Economic Policy Institute

CABLE MERGERS AND MONOPOLIES

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CABLE MERGERS AND MONOPOLIES

Market power in digital media and communications networks

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Introduction and overview

Persistent Abusive Monopoly

For policy makers and advocates who believe that competition is the consumer's best friend, the cable industry presents an ugly, anticompetitive picture. In the late 1990s, the assistant attorney general for antitrust called the cable industry "the most persistent monopoly in the American economy."[1] Things have only gotten worse.

Since that statement, AT&T purchased the largest cable owner (TCI) and the fifth-largest cable operator (MediaOne). The pending AT&T/Comcast merger would pull the fourth-largest operator into the dominant firm. It would create the largest cable company in the nation's history, with substantial ownership interest in cable systems that serve one-third of the nation's households and almost half of all cable households.[2] In the same period, the cable industry has also seized a dominant position in high-speed Internet access service, extending its anticompetitive and anti-consumer practices to this critical new market for advanced telecommunications with its broadband cable modem service.[3]

Cable companies use the same technology to provide both video and telecommunications services. The upgrades necessary to provide the current generation of digital video service also make possible the provision of high-speed Internet service. Most costs of the upgrade are common between the two. Cable companies have bundled the two services together. The convergence of video and data in one platform under the control of cable companies poses a critical challenge to the digital economy because the cable industry continues to possess and abuse market power in both the video and advanced telecommunications markets. The available econometric evidence and consumers' real-world experience do not support claims that competition from alternative technologies is sufficient to discipline cable, in either the video-distribution market or the high-speed Internet access market. This book shows that the cable industry is strategically pricing and managing the rollout of the two services to preserve and extend its market power.

As bleak as this picture is, the AT&T/Comcast merger would dramatically increase the potential for abuse in both markets. This merger would raise the level of concentration in the industry to unprecedented levels and reinforce its monopoly power. By creating a dominant firm, the merger would severely diminish the prospects for competition. The resulting huge communications and media company that spans video and high-speed Internet markets would have the incentive and ability to use its market power to undermine competition in both markets.

To appreciate the general problems of market power in digital media and communications networks—as well as the severe threat that the proposed AT&T/Comcast merger poses to consumers, competition, and the public interest—policy makers must take a broad view of the new digital communications network. They not only must analyze traditional measures of market power in the video market (Multi-channel Video Program Distribution or MVPD), but also must understand the unique power that domination of an advanced telecommunications network creates in the high-speed Internet market. Moreover, because the merger involves media and communications industries, policy makers must also recognize that the merger will have a substantial impact not only on commercial activity in the economy but also on civic discourse and the quality of our democracy.

Outline of the Book

Approach

Three steps must be undertaken to evaluate this, or any, merger.

First, an analytic framework must be established. Why do we care about mergers and what standards should be applied? Because media and communications industries span important commercial markets and affect the flow of information and debate in our political process (the marketplace of ideas), it is especially important to have a clear understanding of the goals and effects of mergers in these industries.

Second, because merger review is necessarily predictive, defining the markets and the structural conditions is a critical step for the review. The impact of a merger on competition and consumers, as well as on civic discourse and citizens, depends on the nature of the markets in which the proposed merger would take place.

The third step in the analysis requires a reasonable projection of the impact of the merger on the relevant markets. After demonstrating the presence and abuse of cable market power in both the video and advanced telecommunications services markets, this book identifies ways in which the merger would make matters worse. Confronted with a reasonable pro-

jection of harm to competition or the likelihood that a merger would not promote the public interest, policy makers must either block the merger or take remedial steps to correct the problems.

Outline

The book is divided into three parts. Part I deals with the video market and presents a traditional discussion of industrial organization and market structure issues.

Chapter 1 presents a discussion of the underpinnings of public policy concern about market power and mergers in communications and media markets. It identifies the statutory and analytic basis for antitrust concerns about harm to competition. It also discusses the Communications Act concerns about diversity in civic discourse. It explains the measures of market structure and market power used in merger review and in the analysis of industrial organization.

Chapter 2 analyzes the structure of the video market. It demonstrates that cable companies possess and have abused market power in multi-channel video program distribution. It demonstrates that cable industry claims about competition at the point of sale presented to the Federal Communications Commission are a mixture of blatant misrepresentation of the empirical evidence and simplistic analysis that is incorrect and misleading. After demonstrating the lack of competition with elasticities of demand and substitution and with patterns of market expansion, the book draws on the results of an extensive survey of cable and satellite customer attitudes to provide a realistic map of the multi-channel video product space. The chapter concludes by demonstrating that the cable industry is highly concentrated at the local and regional levels and moderately concentrated at the national level. It documents the industry's market power and the inevitable result of the exercise of market power unfettered by competition or regulation – a clear pattern of pricing abuse and denial of access in the industry.

Chapter 3 examines discrimination and other anticompetitive practices of cable operators in video-programming markets. As buyers of programming who are frequently integrated into program production, cable operators have a long history of discriminating against new programming that threatens to compete with their marquee offerings. Because they have the dominant means of distributing video programming, cable operators have withheld their programming from competing distributors (or sought to prevent programs from being made available to competing distributors). The chapter shows that such anticompetitive practices combine with the economics of program production to create a moderately concentrated video

programming market in which a small number of programmers dominate—all of whom have guaranteed access to distribution mechanisms, either through ownership or carriage rights.

Part II deals with the more unique aspects of the proposed AT&T/Comcast merger and presents the less traditional discussion of communications platforms. Chapter 4 presents a description of communications platforms and the unique concerns about market power in communications platforms. It describes the uniquely dynamic information environment created by open communications platforms and the end-to-end principles of the Internet. It rejects claims that the public interest is served by allowing the exercise of market power in these industries.

Chapter 5 describes in detail the specific sources of leverage in cable's closed communications platform and the strategies for exercising market power when firms dominate closed platforms.

Chapter 6 discusses cable modem service in the high-speed Internet market. It shows that advanced telecommunications markets are dominated by a very small number of facility owners who have the incentive to foreclose and discriminate against independent content providers. It demonstrates that cable companies possess and have abused market power over this product. It then examines the cable industry's strategic pricing and withholding of high-speed Internet access service—strategies that parallel the anticompetitive behaviors in the video product space.

Part III deals with the impact of the proposed AT&T/Comcast merger in the market structures identified. Chapter 7 shows that the merger would make matters much worse in both the video and high-speed Internet markets. It shows that the merger violates the guidelines of both the Department of Justice and the FCC in terms of allowable increases in concentration. Consequently, it will harm competition and will not promote the public interest. It discusses how the merger would undermine competition in the high-speed Internet market and increase the likelihood that a closed communications platform would dominate the next generation of the Internet, to the detriment of consumers and the economy.

Although the book recommends that the merger be rejected, Chapter 8 also presents a series of remedial measures that could be used to blunt the negative impact of the merger. Both federal and local policies to prevent anticompetitive effects and provide consumer protection are identified.

The Public Understands the Danger of Mergers in the Mass Media and Communications Industries

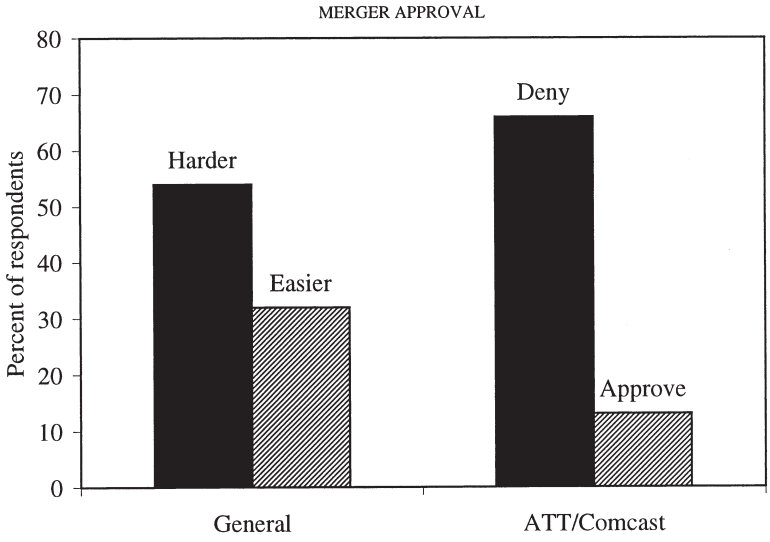
The economic and regulatory concepts used throughout this study are grounded in theory and empirical research and framed in the complex terms of economic analysis. The conclusion is clear: Increasingly concentrated media and communications markets serve the public poorly. Before we launch into that technical analysis, it is important to stress that the public has borne the brunt of past abuses of market power and will be the victims of the increased market power resulting from the pending AT&T/Comcast merger. The public feels these effects through rising prices, restricted choices, and poor service. Public opinion toward mergers is shaped by the real-world experience of consumers and reflects the generally negative effects of past mergers on the public.

In response to survey questions, the public expresses strong concerns about increasing size and concentration in the media and communications industries. With respect to the AT&T/Comcast merger, two-thirds of respondents to one recent survey said that the AT&T/Comcast merger should be denied (see **Figure 1**).[4] With communications industry mergers, the most frequent problem volunteered by respondents was the resulting lack of choice and competition (34%). The second most frequent problem was higher prices (24%). The sheer size of the companies was a distant third (9%).

The public has had this dim view of communications industry mergers for some time. In late 1995, just before the passage of the Telecommunications Act, respondents to an opinion poll who did not have a specific merger in mind felt that public policy should make it harder, not easier, for cable mergers to take place (54% to 32%) (see Figure 1)[5] Half of all respondents felt that such mergers would lead to higher prices compared to only one-eighth who felt that prices would go down (see **Figure 2**). By more than a 2-to-1 margin, respondents believed that quality would become worse, not better (36% versus 14%) (see Figure 2). They also believed that cross-ownership of media would decrease the diversity of news coverage and editorial viewpoints.

This book shows that the public's opposition to these mergers is well-justified, not only by their everyday experience, but also by the overwhelming weight of the technical economic evidence.

FIGURE 1 The public opposes mergers in the media and communications industries



Source: Consumer Federation of America and Center for Media Education, 1995; Lauer Research Inc, 2002.

FIGURE 2 Impact of mergers on quality and price

Source: Consumer Federation of America and Center for Media Education, 1995.

PART 1

Video

CHAPTER 1

Underpinnings of public policy toward mergers in communications and media markets

Public policy toward mergers under the antitrust laws (the Sherman, Clayton and Federal Trade Commission acts) and the Communications Act has been developed using formal and quantitative economic terms of market structure and market power analysis, but the policy is driven by simple principles. Under the antitrust laws, mergers may be "prohibited if their effect may be to substantially lessen competition or tend to create a monopoly," or "if they constitute a contract, combination…or conspiracy in restraint of trade," or "constitute an unfair method of competition."[6] The standard under the Communications Act is higher, reflecting the special role of communications and mass media in our democracy. The FCC is charged to transfer cable, broadcast, and telecommunications licenses only upon a "finding by the Commission that the public interest, convenience, and necessity will be served."[7] In both cases, these standards are preventive: they ask authorities to predict the effects of the merger and to take action preventing negative outcomes (in the case of antitrust) or ensuring positive outcomes (in the case of the Communications Act).

The double review is grounded in recognition by Congress that media and communications industries play a special, dual role in society. They are critical commercial activities, and they deeply affect civic discourse.

Promoting Competition as the Goal of Antitrust Policy

Horizontal Market Power

Economic public policy is primarily concerned with market performance.[8] The concept of performance is multifaceted, including both efficiency and fairness.[9] The measures of performance to which we traditionally look are pricing, quality, and profits. Lately, economists have added innovation as an area of concern.

The performance of industries is determined by a number of factors,

most directly by the conduct of market participants. Do they compete? What legal tactics do they employ? How do they advertise and price their products? Conduct is affected and circumscribed by market structure. Market structure sets the context in which economic actors behave. Market structure includes an analysis of the number and size of the firms in the industry, their cost characteristics, and barriers to entry. Market structure is also influenced by basic conditions, such as the elasticities of supply and demand, vertical integration, and any constraints of available technologies.

Promoting market structures that support competition is the primary object of U.S. policy. The predominant reason for preferring competitive markets is their superior economic performance, although there are political reasons to prefer such markets as well. In particular, competition fosters an efficient allocation of resources, an absence of excess profit, the lowest-cost production, and a strong incentive to innovate.[10] When competition breaks down, firms are said to have market power,[11] and the market falls short of these results.[12] Pure and perfect competition is rare, but the competitive goal is central.[13] Therefore, public policy pays a great deal of attention to the relative competitiveness of markets as well as to the conditions that make markets more competitive or workably competitive.[14] Market structure analysis identifies situations in which a small number of firms control a sufficiently large part of the market to make coordinated or reinforcing activities feasible. Through various mechanisms, a small number of firms can explicitly and implicitly reinforce each other's behavior instead of competing with each other. Identifying when a small number of firms can exercise this power is not a precise science. Generally, however, when the number of significant firms falls into single digits, there is cause for concern.

For the purposes of merger analysis, the Department of Justice has adopted *merger guidelines* intended as a practical rule to indicate when the number of firms is becoming so small that concern about the exercise of market power triggers close scrutiny.[15] The DOJ uses a complex index called the Hirschman-Herfindahl Index (HHI) to describe concentration; while many economists use the four firm concentration ratio (CR-4).[16]

The simplest way to summarize the DOJ *merger guidelines* is to describe markets in terms of the equivalent of equal-sized firms (see **Table 1.1**).[17] The DOJ considers a market with the equivalent of 10 or more equal-sized firms to be "un-concentrated" and is not likely to challenge mergers in such markets. In a market with 10 equal-sized firms, the four largest firms would have a 40% market share and the HHI would be 1,000. Markets with the equivalent of approximately six to nine equal-sized firms are considered "moderately concentrated." The HHI falls between 1,000

TABLE 1.1 Describing market concentration for purposes of public policy

Department of Justice merger guidelines	Shepherd Definition type of market	Equivalents in terms of equal sized firms	HHI	HHI increase that raises concern	4-firm share
	Monopoly	1[a]	10,000		100
	Duopoly	2[b]	5,000	50	100
Highly concentrated			1,800		
	Tight oligopoly	6	1,667		67
Moderately concentrated				100	
Unconcentrated	Loose oligopoly	10	1000		40*
	Atomistic competition	50[c]	200		8*

a = antitrust practice finds monopolies as firms with market share in the 65% to 75% range. Thus, HHIs in "monopoly markets" could be as low as 4200.
b = duopolies need not be a perfect 50/50 split. Duopolies with 60/40 would have higher HHI measures.
c = Maximum value falls as number of firms increases.

Sources: U.S. Department of Justice (1997) for a discussion of the HHI thresholds; Shepherd (1985) for a discussion of 4 firm concentration ratios.

and 18,000 in the DOJ guidelines. In such a market, the guidelines declare that mergers that have the effect of increasing the concentration by about 10% (i.e. the equivalent of removing between .5 and 1 competitors) are a source of concern. Markets with the equivalent of fewer than six equal-sized competitors are considered highly concentrated and just about any merger is a source of concern.

These thresholds are grounded in theoretical and empirical analysis.

Where is the line to be drawn between oligopoly and competition?

> At what number do we draw the line between few and many? In principle, competition applies when the number of competing firms is infinite; at the same time, the textbooks usually say that a market is competitive if the cross effects between firms are negligible. Up to six firms one has oligopoly, and with fifty firms or more of roughly equal size one has competition; however, for sizes in between it may be difficult to say. The answer is not a matter of principle but rather an empirical matter.[18]

Although collusion or coordinated action is a concern, the guidelines recognize that market power can be exercised with coordinated, or parallel, activities and even unilateral actions.[19] The area of non-collusive, oligopoly behavior has received a great deal of attention.[20] A variety of models have been developed in which it is demonstrated that small numbers of market participants interacting in the market, especially on a repeated basis, can learn to signal, anticipate, and parallel one another to achieve outcomes that capture a substantial share of the potential monopoly profits without explicit collusion.[21]

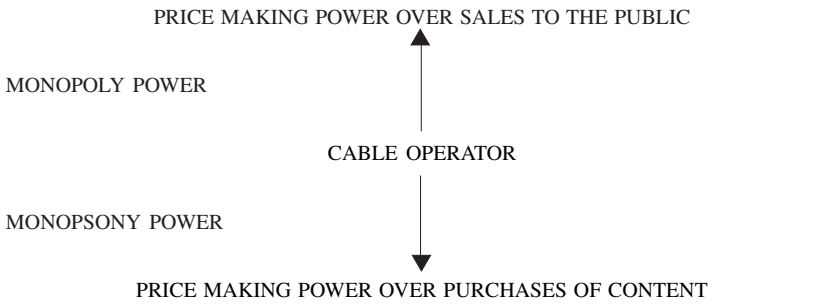
The discussion of antitrust is almost always framed in terms of monopoly power – or the lack of sufficient competition to discipline sellers that results in their ability to set prices above costs in a market. Similar concerns exist with monopsony power (see **Figure 1.1**).

Monopsony is a situation in which a buyer constitutes such a large part of the market that the buyer can dictate prices to sellers, who must acquiesce to the demands of the large buyers because they do not have alternative places to sell their products.

> Although most antitrust litigation of market power offenses has involved monopoly sellers rather than buyers, monopsony can impose social costs on society similar to those caused by monopoly.
>
> Monopsony is often thought of as the flip side of monopoly. A monopolist is a seller with no rivals; a monopsonist is a buyer with no rivals. A monopolist has power over price, exercised by limiting output. A monopsonist also has power over price, but this power is exercised by limiting aggregate purchases. Monopsony injures efficient allocation by reducing the quantity of the input product or service below the efficient level. [22]

This is particularly important in the discussion of the cable industry because cable companies buy programming to distribute to the public.

FIGURE 1.1 Monopsony and monopoly power



> Monopsony is thought to be more likely when there are buyers of specialized products or services. For example, a sports league may exercise monopsony (or oligopsony) power in purchasing the services of professional athletes. An owner of a chain of movie theaters, some of which are the sole theaters in small towns, may have monopsony power in the purchase or lease of movies. Cable TV franchises may exercise monopsony power in purchasing television channels that will be offered to their subscribers.[23]

Concerns About Vertical Leverage

The discussion in the previous section focuses on horizontal market power. Vertical integration can raise concerns, especially when dominant firms are integrated across markets for critical inputs. Vertical issues are a particular concern in high technology and communications industries because they are "platform" industries as discussed below. For several decades late in the 20th century, concern about vertical integration in market structure analysis was muted. However, a number of mergers in the communications and high-tech industries among increasingly large owners of communications facilities have elicited vigorous analysis of the potential abuse of vertical market power.[24] Just listing the names conveys a sense of the merger wave – AT&T/TCI/MediaOne/Comcast; AOL/Time Warner/Turner; SBC Communications Inc/PacificBell/Ameritech/SNET; Verizon/Bell Atlantic/GTE/NYNEX.

Vertical integration can create barriers to entry. By integrating across stages of production, incumbents may force potential competitors to enter at both stages, making competition much less likely.[25] Vertical mergers can also foreclose input markets to competitors.[26] Exclusive and preferential deals for the use of facilities and products compound the problem.[27]

Cross-subsidization can be more readily accomplished.[28] Vertical integration facilitates price squeezes and enhances price discrimination.[29]

Concerns arise that the dominant firm in the industry will gain influence across input and output markets to profitably engage in anticompetitive conduct,[30] and the dynamic processes in the industry will clearly shift toward cooperation and coordination instead of toward competition. Beyond collusion, [31] a mutual forbearance and reciprocity occurs as spheres of influence are recognized and honored between and among the small number of interrelated entities in the industry.[32] A rational response to these conditions is a rush to integrate and concentrate. Being a small independent firm at any stage renders a company extremely vulnerable to a variety of attacks.[33]

Promoting Diversity in Civic Discourse as the Goal of Communications Policy

The public interest standard of the Communications Act is not limited to considerations of economic efficiency and the desire to promote competition; it addresses other public policy concerns as well. For example, Title VI of the Communications Act, which governs cable communications, establishes six purposes, only one of which involves competition. In fact, competition is mentioned last on the list. Also identified are long-standing Communications Act goals of localism and diversity. Thus, included on the list are directives to the FCC to implement policies that:

> encourage the growth and development of cable systems and which assure that cable systems are responsive to the needs and interests of the local community…
>
> assure that cable communications provide and are encouraged to provide the widest possible diversity of information sources and services to the public.[34]

This language paraphrases Supreme Court wording that has been used to define First Amendment aspirations for development of civic discourse in modern America. Justice Black used this key expression in the seminal case of Associated Press.

> "The First Amendment rests… on the assumption that the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public, that a free press is a condition of a free society. Surely a command that the government itself

> shall not impede the free flow of ideas does not afford non-governmental combinations a refuge if they impose restraints upon that constitutionally guaranteed freedom. Freedom to publish means freedom for all and not for some."[35]

Since then, Congress and the Supreme Court have reaffirmed this view with respect to newspapers.[36] They have applied it to all forms of mass media, including broadcast TV[37] and cable TV.[38]

To put the matter simply, citizens' needs cannot be reduced to consumers' needs. Justice Frankfurter, concurring in Associated Press, made this quite clear:

> A free press is indispensable to the workings of our democratic society. The business of the press, and therefore the business of the Associated Press, is the promotion of truth regarding public matters by furnishing the basis for an understanding of them. Truth and understanding are not wares like peanuts and potatoes. And so, the incidence of restraints upon the promotion of truth through denial of access to the basis for understanding calls into play considerations very different from comparable restraints in a cooperative enterprise having merely a commercial aspect.[39]

This fundamental difference still is the law of the land. For example, although the D.C. Appeals Court has been stinging in its criticism of the FCC for failing to justify its rules in recent decisions, it also has chided the media companies for ignoring the importance of non-economic considerations in policies to promote civic discourse.

> The networks… argue that the Rule fails even rationality review because "[P]ermitting one entity to own many stations can offer ...more programming preferred by consumers"… but for the Rule "buyers with superior skills [could] purchase stations where they may be able to do a better job" of meeting local needs even as they realize economies of scale.
>
> This paean to the undoubted virtues of a free market in television stations is not, however, responsive to the question whether the Congress could reasonably determine that a more diversified ownership of television stations would likely lead to the presentation of more diverse points of view. By limiting the number of stations each network (or other entity) own, the … Rule ensures that there are more owners than there would otherwise be. An industry with a larger number of owners may well be less efficient than a more concentrated industry. Both consumer satisfaction

> and potential operating cost savings may be sacrificed as a result of the Rule. But that is not to say the Rule is unreasonable because the Congress may, in the regulation of broadcasting, constitutionally pursue values other than efficiency – including, in particular, diversity in programming, for which diversity of ownership is perhaps an aspirational but surely not an irrational proxy. Simply put, it is not unreasonable – and therefore not unconstitutional – for the Congress to prefer having in the aggregate more voices heard, each in roughly one-third of the nation, even if the number of voices heard in any given market remains the same.[40]

By noting the unique concern of communications policy with civic discourse, we should not conclude that pro-competitive economic policies are necessarily in conflict with policies to promote civic discourse. In fact, the two are generally compatible, which has been recognized by economic analysts. Two leading liberal economists argued that atomistic competition disperses and decentralizes power, promoting democratic discourse by operating through objective mechanisms based on merit as opposed to the subjective preferences of the "powerful."

> We proceed now to the principal question on our agenda. Why do statesmen and economists hold a competitive market system in such high esteem alike? Why is competition the ideal in a market economy, and what is wrong with monopoly?
>
> We begin with the political arguments, not merely because they are sufficiently transparent to be treated briefly, but also because when all is said and done, they, and not the economists' abstruse models, have tipped the balance of social consensus toward competition. One of the most important arguments is that the atomistic structure of buyers and sellers required for competition decentralizes and disperses power. The resource allocation and income distribution problem is solved through the almost mechanical interaction of supply and demand forces on the market, and not through the conscious exercise of power held in private hands (for example, under monopoly) or government hands (that is, under state enterprise or government regulation). Limiting the power of both government bodies and private individuals to make decisions that shape people's lives and fortunes was a fundamental goal of the men who wrote the U.S. Constitution.[41]

Other economic characteristics of atomistically competitive markets that converge with democratic principles are the autonomy and freedom of entry that such markets imply.

> A closely related benefit is the fact that competitive market processes solve the economic problem *impersonally,* and not through the personal control of entrepreneurs and bureaucrats…
>
> A third political merit of a competitive market is its freedom of opportunity. When the no-barriers-to-entry condition of perfect competition is satisfied, individuals are free to choose whatever trade or profession they prefer, limited only by their own talent and skill and by their ability to raise the (presumably modest) amount of capital required.[42]

In the Associated Press decision as applied to all media the Supreme Court certainly expressed a concern about the sheer size of media organizations and the undue influence that could result.[43] In the industrial age the size of media organizations presents a growing mismatch between those who control media organizations and average citizens.[44] Horizontal market power detracts from civic discourse. As discussed below, vertical market power, which is an increasing concern in the economy, is also a concern in the polity.[45]

Conclusion

It is important to recognize both economic and non-economic considerations when examining the structure of the media and communications market and when reviewing the impact of mergers in those markets. Drawing attention to the distinction between economic competition and civic discourse and the unique importance of the latter in analyzing media and communications market structure informs public policy in several ways.

- It reminds us that the exercise of economic market power is a special affront to public policy in the communications and media industries because it has negative effects in both the commercial marketplace and the marketplace of ideas.

- It teaches us that, **if** there is a conflict between economic efficiency and civic discourse, economic efficiency should take a back seat.

- It demands that when we apply economic principles to media and communications markets, we should take a cautious approach.

For example, in current economic discussions, when decisions are a close call the efficiency gains tend to get the benefit of the doubt. When

it comes to civic discourse, perhaps we should lean in the opposite direction, preferring more actors with less ability to control the flow of information. We should certainly not trade gains in economic efficiency for clear losses in civic discourse.

CHAPTER 2

The persistent failure of competition in the cable market

The Enduring Cable Monopoly

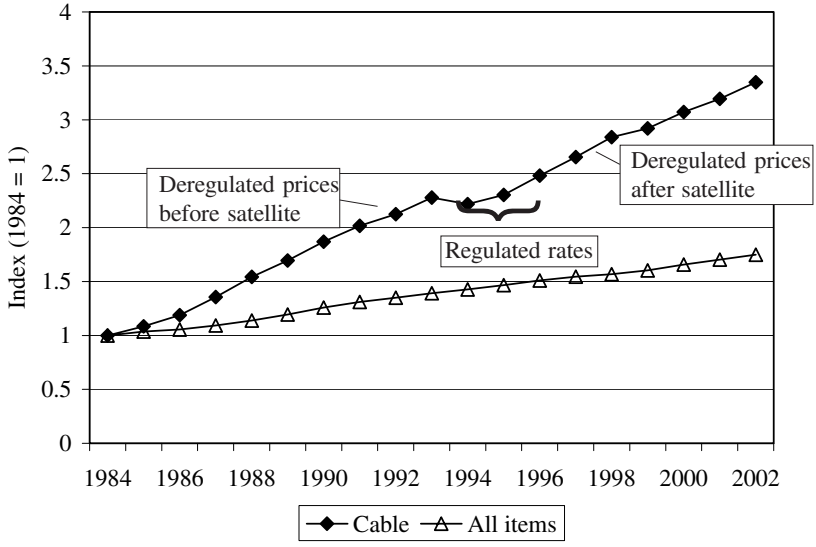
Anticompetitive History of the Industry

In its current form, the cable industry was born with franchise monopoly service territories in the 1970s. The Cable Act of 1984 gave the FCC the authority to deregulate prices in competitive cable TV markets and restricted the ability of local franchise authorities to oversee the industry. Congress had been told that competition between cable companies would grow as new cable operators overbuilt incumbents and competing technologies would add further competition.[46] The FCC determined that three over-the-air channels in each community were enough to establish effective competition with cable. As a result, cable systems serving about 80% of the country were deregulated.

Effective competition failed to materialize either from the entry of additional cable companies into the local franchise area or from other technologies. Over-the-air broadcast signals were extremely feeble competition for cable. Numerous examples of discrimination in programming came to light. Cable prices exploded and public outcry ensued (see **Figure 2.1**).

To stave off legislation to re-regulate cable, the FCC reconsidered its three over-the-air rule and switched to six over-the-air stations as a standard. However, the pricing abuse was too great and the FCC's standard too weak to convince Congress that cable's market power would be checked. By 1992, Congress had observed a continuing monopoly at the point-of-sale, with increasing concentration at the national level and growing vertical integration between programming and distribution. Congress re-regulated cable rates in 1992 and placed a range of "pro-competitive" conditions on the industry, including requirements that the FCC develop a structural limit on ownership (a horizontal limit or cap), rules to ensure access to programming for competing distribution systems and so forth.

FIGURE 2.1 Price increases since cable deregulation in 1984



Source: U.S. Bureau of Labor Statistics, *Consumer Price Index.*

When Congress revisited the structure of the multi-channel video market in the Telecommunications Act of 1996, it decided to relax rate regulation in anticipation of growing transmission competition from satellite and telephone companies. It cautiously left the ban on cross-ownership and the requirement for a horizontal limit in place. Unfortunately, while Congress decided to move media and communications policy toward greater reliance on competition in the Telecommunications Act of 1996, the cable operators again headed in the opposite direction. Rather than use their expertise, existing plant, and ownership of programming to enter neighboring service territories, the dominant cable companies simply chose to buy each other. The monopolies they had gained through franchise awards in the 1970s and defended through anticompetitive behavior in the 1980s were merged into ever-larger systems and clusters in the 1990s. The result has been a dramatic increase in concentration and clustering of systems.

Congressional caution in the 1996 act was well grounded, but its excessive optimism about the development of competition for cable was totally inappropriate. One of the great disappointments of the 1996 Telecommunications Act has been the failure of competition from alternative

technologies to break down the market power of the incumbents.[47] Congress devoted a whole section of the law to telephone competition for cable through open video systems.[48] Open video systems are nonexistent.[49] As discussed below, cross-technology competition from satellite is weak as well. This track record teaches us that we should be very skeptical of promises about future technologies that are "just around the corner" and which will break the grip of the cable monopoly.

The Failure of Cross-Technology Competition

Because incumbent cable operators buy their potential competitors, strenuously avoiding head-to-head competition, public policy has come to rest on the hope for alternative technologies, most recently satellite, as the primary source of meaningful competition for cable. Unfortunately, because of its cost and other characteristics, satellite has fallen far short of providing widespread and vigorous competition. The FCC's own analysis shows and has consistently shown that satellite does not now exert, nor has ever exerted, a significant or substantial competitive effect on cable industry price, quantity, or quality.

Nevertheless, claims about cross-technology competition are at the center of the effort by AT&T/Comcast to convince policy makers that their merger will not harm the public. AT&T/Comcast claim that "the merged company faces intense competition from DBS [Direct Broadcast Satellite] providers."[50] They also claim cross-technology competition in the high-speed Internet market, citing "the need to compete with DSL and other comparable offerings."[51]

The application for license transfer at the FCC cites a recent filing of AT&T/Comcast in the ongoing Horizontal Limits proceeding,[52] which relies heavily on this argument. The expert witness for AT&T claims that "stiff competition"[53] from a close substitute[54] denies the industry market power because of " the demonstrated ability and willingness of consumers to switch between cable-based and direct broadcast satellite."[55] The witness for AT&T provides a series of observations that make it clear how central this issue is to the policy decision:

> First, exercise of buyer market power requires a *credible* threat to withhold carriage if the supplier refuses to accede to the buyer's anticompetitive demands. Here, however, programming suppliers know that in the presence of Direct Broadcast Satellite (DBS)(and other cable competitors such as overbuilders – second cable operators building a systems in areas where cable is already offered – and MMDS providers), inefficient

> purchasing decisions by a cable operator – *i.e.*, refusals to carry competitively priced programming that subscribers demand – would impose substantial costs on the cable operator in the form of (existing and future) subscribers lost to rivals… the willingness of customers to choose DBS over cable is highly relevant to the programming supplier's own assessment of its available alternatives.[56]
>
> Any attempt by a cable multiple systems operator (MSO) to degrade the quality of its programming in order to foreclose a rival would cause it to lose significant customers to DBS and other alternatives thereby undermining the effectiveness of its strategy. [57]

Similarly, at the core of the discussion offered by experts for the National Cable Television Association is the claim that, "If a cable operator were to exercise monopsony in such a manner, it would lose customers to DBS rivals who can purchase more, and higher quality, programming and thereby take market share from cable."[58] Given that these claims are playing a critical role in determining the ownership structure of the dominant distribution mechanisms for both mass media and advanced telecommunications services, the behavior of this industry and the impact of inter-modal competition deserve extremely close examination.

Weak Competition at the Point of Sale

If satellite were a close substitute for cable, one would expect that it would have a large effect on cable. In fact, the FCC's own findings and data have contradicted the cable industry claims for years. The commission never stated that cable and satellite are *close* substitutes. It found, at best, that satellite only "exerts a small (shown by the small magnitude of DBS coefficient) but statistically significant influence on the demand for cable service."[59] Even the finding of a small effect has recently been reversed.

In the same econometric estimation, the commission concluded that the "the demand for cable service is somewhat price elastic (i.e. has a price elasticity of minus 1.45) and suggests that there are substitutes for cable."[60] This elasticity is not very large and the commission recognizes that in using the adjective "somewhat."

The FCC also attempted to estimate a price effect between satellite and cable. If cable and satellite were close substitutes providing stiff competition, one would also expect to see a cross-price effect. Most discussions of competition in economics texts state that substitutes exhibit a positive cross-price elasticity.[61] The FCC can find none. In fact, it found quite the opposite. The higher the penetration of satellite, the higher the price of cable.[62]

The most recent annual report on cable prices shows that the presence of DBS has no statistically significant or substantial effect on cable prices, penetration, or quality.[63] This is true when measuring the level of penetration of satellite across all cable systems, or when isolating only areas where satellite has achieved a relatively high penetration.[64]

At the same time, ownership of multiple systems by a single entity, large size, and clustering of cable systems result in higher prices.[65] Vertical integration with programming results in fewer channels offered (which restricts competition for affiliated programs).[66]

In other words, one could not imagine a more negative finding for cross-technology (inter-modal) competition from the FCC's own data. All of the concerns expressed about concentrated, vertically integrated distribution networks are observed, and the presence of inter-modal competition has little or no power to correct these problems. The claims that the cable industry makes about the benefits of clustering and large size – measured as price effects – are contradicted by the data. In fact, only intra-modal, head-to-head competition appears to have the expected effects. The presence of wire-line cable competitors lowers prices and increases the quality of service.

It is not only the FCC data that contradict cable industry claims. The other piece of empirical evidence that the cable companies rely on to demonstrate cable-satellite competition is even more damning. The expert witness for AT&T claims that a study by Goolsbee and Petrin[67] indicates that cable and satellite are close substitutes.[68]

> Likewise, in a recent paper, Professors Goolsbee and Petrin… estimate a system of demand curves for over-the-air TV, DBS, expanded basic cable services and expanded basic and premium cable services… From their estimated elasticities and shares, one can compute diversion ratios, which are a measure of substitutability between goods… These diversion ratios are significant and imply that **DBS and basic cable are close substitutes.**[69]

In fact, Goolsbee and Petrin's conclusion is quite the opposite.

> The demand for cable is rather insensitive to its own price and to the DBS price. Premium cable is more price responsive than basic is, though neither is particularly elastic…In other words, the demand estimates indicate that **DBS is not a particularly good substitute for cable in the minds of consumers.**[70]

This is no simple oversight. The Goolsbee and Petrin study actually starts by citing the complaints of consumer groups that prices were being deregulated without adequate market forces to discipline them. It set out to study DBS and found it wanting as a competitor.

> The Telecommunications Act of 1996, however, phased out most price regulation and instead tried to promote competition as a check on price. The explicit goal of the Act was to stimulate local phone companies or new cable start-ups to enter the market.
>
> As a general matter, this effort to encourage entry failed. Phone Company and new cable entrants have been rare. Consumer advocates say that unfettered monopolies can now raise prices with impunity (Consumer Federation of America, [2001]). As the CPI and the Cable Television CPI data… indicate, since the phase out of price regulation began in 1996, the prices of cable have grown about 2.5 times faster than overall prices in the economy. This has led to increasing public calls for Congress and the FCC to re-regulate cable, at least until there is "viable competition." (Kimmelman (1998).[71]

The study found a lower elasticity of demand than the FCC and noted that the cable operators moved aggressively to increase price upon deregulation. Their behavior was consistent with the exercise of market power.

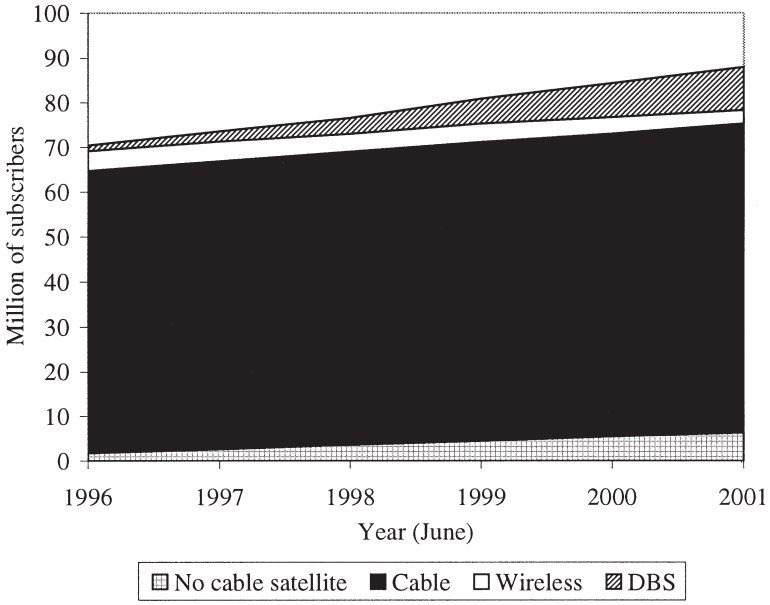
> Using the baseline specification, the results indicate that to get to the point where the elasticity of demand reached –1 (the minimum price increase compatible with static profit maximizing), the firms would need to raise prices by 17%. To give some perspective, in the period immediately following our sample, prices actually rose by about 11%.[72]

This misstatement of facts has a devastating impact on the cable industry arguments. Without point-of-sale competition, cable operators do not face market discipline in their programming choices. They can raise prices, scrimp on quality to enrich themselves, degrade the programming bundle by discriminating against nonaffiliated programs, or use monopoly rents to further the political agenda of the system owners, without suffering significant economic loss.

Satellite's Initial Success Came in Entering New, Niche Markets, Where It Did Not Compete for Cable's Existing Customers

With feeble support in the econometric evidence for the claim of competition, it is not surprising that cable industry analyses are forced to misinter-

FIGURE 2.2 Multi-channel video programming distributors



Sources: Federal Communications Commission, 1997, para. 36; 1999, para., 54; 2001b, para. 66; 2002a, paras. 38, 58. Competitive Satellite is 60 percent of DBS in 2001 and 40 percent in 1994, with the percentages assumed to change smoothly between the two dates.

pret subscriber patterns to maintain a consistent story. Ordover states "the non-cable share of the MVPD business continues to experience an annual growth rate of nearly 20%. Most of this growth has come from luring away existing cable subscribers."[73] Rosston and Shelanski state that "Since cable had virtually 100% market share of MVPD customers in 1994, the gains for the DBS providers have come at the expense of cable."[74] This simplistic analysis is wrong and does not stand close scrutiny (see **Figure 2.2**).

Cable's subscriber base is growing and has continued to grow at a steady pace throughout the recent period of rapid satellite growth. Without careful analysis, cable industry experts incorrectly assume the growth of satellite has come entirely at the expense of cable. However, the cable industry experts do not factor new markets into that analysis. The industry and the FCC have confused separate geographic markets and product market segments served by different technologies with inter-modal competition.

In fact, satellite drew its subscribers from two places that cable had not gone. A very substantial segment of the satellite market exists in places

not served by cable. Moreover, satellite was the only digital service available for a considerable period of time. In other words, cable was not losing subscribers to satellite – satellite was expanding the market. There is no reason to believe that, during this time period, cable could have entered those markets with an economically attractive offering. Because a very substantial part of satellite growth did not "come at the expense of cable," it did not discipline the market behavior of cable. In fact, while satellite was growing fastest, cable continued to grow at close to its historic rates. Satellite did not compete in the market with cable; it served markets that were adjacent to the cable market.

The implications of this analysis for public policy are important and straightforward. Satellite has always been a digital niche player. It never competed for the bulk of cable's basic/expanded basic customer base. J.P. Morgan has recently offered exactly this view of the cable-satellite product space.

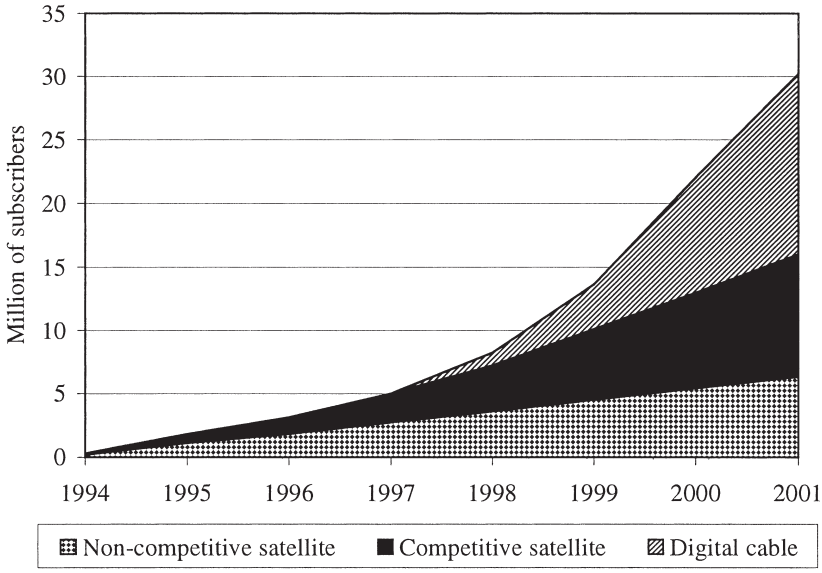
> We believe that more than 95% of all cable churn is caused by factors other than DBS competition. Competition generated churn rates of just 1.3% per year during the past five years, suggesting that former cable customers make up less than one-third of DBS's current customer base. The implication of this finding is significant because it suggests that the vast preponderance of DBS's growth depended on first-time multi-channel video (MVC) subscribers. We believe that growth in the MVC market will drop off in the next several years as the potential population of first-time MVC subscribers dwindles.[75]

Failing to make a careful analysis of subscriber patterns, cable commentaries incorrectly project large continuing gains for satellite.[76] The projections are highly suspect.

Figure 2.3 shows growth of digital subscribers in markets where cable and satellite actually compete. Cable's offering is growing much faster than satellite's comparable service. This undercuts the cable industry's projection of past trends to try to project vigorous future competition between satellite and cable. The addition of high-capacity digital cable and cable modem Internet services allows cable operators to attack the high-end niche that satellite occupies.[77] Cable will be able to leapfrog satellite at the high end of the market, particularly when it is bundled with high-speed Internet access.

The fact that cable now has an offering to compete in the satellite niche will slow satellite penetration. Cable has other advantages as well.

FIGURE 2.3 Cable's dramatic capture of the digital TV market



Source: Jason Bazinet, *The Cable Industry* (J.P. Morgan Equity Research, November 2, 2001), Figure 26; Federal Communications Commission, *In the Matter of Annual Asses-sment of Competition in Markets for the Delivery of Video Programming*, Fourth Annual Report, CS Docket No. 97-141, December 31, 1997, para 36; Sixth Annual Report, CS Docket No. 99-230, December 30, 1999, para 54; Seventh Annual Report, CS Docket No. 00-132, January 2, 2001, para 66; Eight Annual Report, CS Docket No. 01-129, January 14, 2002, paras 38, 58. Competitive Satellite is 60 percent of DBS in 2001 and 40 percent in 1994, with the percentages assumed to change smoothly between the two dates.

> The outlook for DBS is all the more ominous when we look at total digital net adds across both cable and DBS. Since cable began offering a digital video service, it has increasingly shown its ability to capture a larger portion of net adds in each successive quarter. In large part, we think this reflects the simple reality that cable must merely convert existing customers from analog while DBS must acquire a new customer, a far costlier and perhaps untenable proposition in the long run. Cable's simple structural advantage will likely be difficult for DBS to overcome.[78]

The J.P. Morgan analysis shows that satellite digital additions peaked in late 1999 and early 2000. Morgan Stanley Dean Witter had earlier predicted this pattern when it stated, "We also believe that DBS additions will

peak in 2000 as the cable television industry completes the majority of its system upgrades and deploys digital cable service throughout the U.S."[79]

As a result, cable is in a much stronger position than satellite. The JP Morgan analysis concluded that, "with the multi-channel video market approaching saturation and cable now capturing more than 70% of digital net adds against DBS, the satellite threat is significantly diminished."[80] Similarly, Merrill Lynch projects that digital cable growth will "slow" to about a 30% growth rate next year, still at least 50% more than satellite.[81] Given the market saturation, lack of competition, and market segmentation between digital cable providers and satellite, satellite is a niche player that is more likely to lose customers to cable over the next few years than to win customers from cable. Simply put, competition was never strong and it is getting weaker with the rollout of digital cable.

> Although we think the competitive overlap between DBS and cable is low, a historical analysis of DBS net ads relative to digital cable net ads suggests cable is rapidly closing in on DBS. In 1999, both digital cable and DBS were adding subscribers at roughly the same rate, but now digital cable is rapidly closing the gap. Presumably it is less expensive to upgrade an existing cable customer than it is for a DBS player to sign up a brand new customer.[82]

Survey results show that cable-satellite competitive overlap is small

The quantitative data on pricing and product substitution in the previous two sections demonstrated the inability of satellite to discipline cable through direct competition. As suggested above, these data "indicate that DBS is not a particularly good substitute for cable in the minds of consumers." This section examines survey data to gain another perspective on what is going on "in the minds of consumers." Recognizing geographic and product market differences, we reinforce the conclusion that "the competitive overlap between DBS and cable is low."

Centris, which surveys multi-channel video households weekly, recently estimated that 40% of satellite subscribers live in areas where cable is unavailable. Approximately 41% of the respondents to the Consumers Union Survey (2000) who have satellite report that they do not have access to cable.[83]

A second group of customers represents a geographic market problem for satellite. This is made up of 2 to 2.5 million people who take both satellite and cable.[84] For these customers, cable and satellite would appear to be complements instead of substitutes. One reason consumers take both services is satellite offers more limited local programming.

Satellite subscribers who also take cable have a lower cable bill than other cable subscribers. They are almost three times as likely to report that their cable bill is less than $30 per month (46% to 17%), suggesting that they take the basic tier that gives them the local channels they cannot get with satellite. They also report watching many fewer channels than other satellite subscribers and cable subscribers. Satellite may overcome this handicap in some markets, depending on available capacity to transmit local channels.

Thus, in the Consumers Union survey, just over half of respondents either cannot get cable or view satellite as a complement for cable instead of as a substitute, because they want local stations. Just under half of the respondents have a choice between satellite and cable and choose satellite over cable. The latter group is the focal point of the remainder of the analysis.

The consumers who take satellite in competitive markets and who do not subscribe to cable do so because they perceive satellite as a high-volume, higher-quality service. Three-quarters of these satellite subscribers said they chose it because of the number of channels. Just less than one-third said they wanted higher-quality sound and pictures. Approximately 40% cite dissatisfaction with cable channel selection. A majority also says cable costs too much. The statement that cable costs too much may seem odd – given, as we will show, cable is less expensive than satellite – but the value proposition of satellite and cable clarifies this consumer viewpoint.

A direct question posed to consumers on their perception of the value of satellite and cable knits these responses together. Respondents were asked, "Overall, how good a value (in terms of programming choices and quality) do you consider this system to be, given the costs?" Satellite fared better. Overall, satellite subscribers are much more favorable about the value proposition than cable subscribers. Although for both services the most frequent response was "good value," for satellite there was a much larger group of subscribers who see their value as excellent (30% versus 6%). In contrast, for cable there was a much larger group who see their service as a poorer value than satellite services (31% versus 8%). However, dissatisfaction with the cable value proposition does not always translate into a decision to subscribe to satellite. Only 17% of the cable respondents said they would consider switching to satellite. Those who are willing to switch are much more likely to have expressed dissatisfaction with the cable value proposition. Nevertheless, less than one-third of those who said cable is a poor value are willing to switch.

Another recent survey of satellite and cable customers reinforces these findings.[85] It found that respondents had a much higher level of satisfaction with satellite pricing than they had with cable pricing. The value proposi-

tion question, worded somewhat differently, found lower levels of satisfaction for both. Although a substantial majority was satisfied with the value proposition of satellite (64% satisfied versus 36% dissatisfied), a majority of the cable respondents were dissatisfied (44% satisfied versus 56% dissatisfied). Specific complaints about cable parallel the earlier findings. Respondents were much more likely to complain about cable price increases (60% versus 24%), lack of channels (approximately 30% versus 14%), and dropped channels (approximately 25% versus less than 15%).

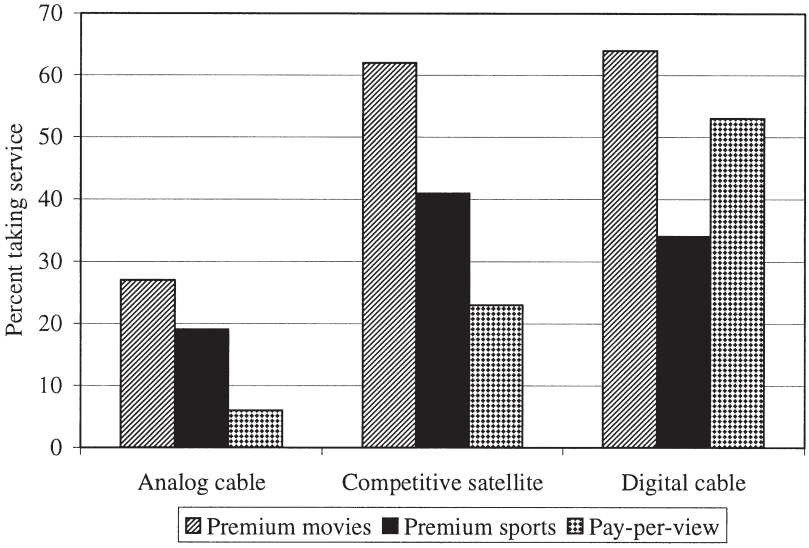
Given the attraction of satellite's wide selection, we should not be surprised to find that satellite owners have very different viewing patterns than those of analog cable subscribers. Competitive market, satellite-only subscribers are less likely to watch broadcast networks and local public access channels (which they probably cannot get). Even the satellite subscribers who also get cable are less likely to watch local public access channels. Competitive market, satellite-only subscribers are more likely to watch premium movie, sports and pay-per-view channels than those who get cable and satellite or just analog (see **Figure 2.4**). However, the behavior of digital cable subscribers resembles that of satellite-only subscribers more than that of analog cable subscribers, especially in terms of premium movies, sports, and pay-per view channel purchases.

Examination of the data reveals that the cable analog group has a clearly identified subgroup that we call the "lunch bucket" cable group. Eighty percent of the cable analog group subscribes only to basic and expanded basic service and takes no additional tiers. This represents the largest segment of cable subscribers by far, at 42 million. The remainder of the analog cable group is more upscale, subscribing to, on average, a total of four tiers. In contrast, three-quarters of satellite subscribers take pay tiers.

Given the strong preference for quality and different viewing patterns, we should not be surprised to find differences in pricing and bills between the two services. The issue of whether satellite is more expensive than cable is always confounded by differences in quality. Satellite is a different product. **Figure 2.5** compares the lunch bucket cable group (analog, no additional tiers) to other groups. Very few satellite subscribers take a small package of services similar to this group of cable subscribers.

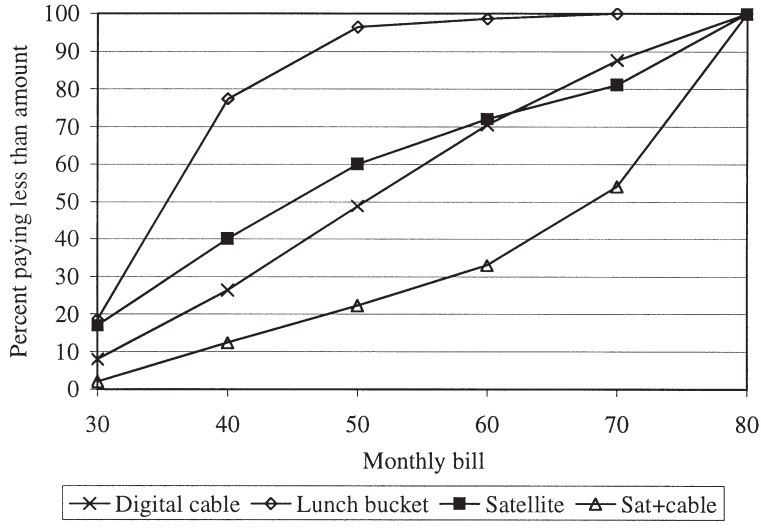
With this comparison, the lunch bucket cable group reports a substantially lower bill (median of $36), with the distribution skewed to the low end (95% spend less than $50). At the other extreme are those who take cable and satellite. They have a median bill of $68, with the distribution skewed to the high end (almost 80% spend more than $50). Digital cable and satellite subscribers fall between the two extremes, both with a median bill of about $50 and an even distribution of bills.

FIGURE 2.4 Viewing patterns for multichannel market segments



Sources: Consumers Union Survey (2000).

FIGURE 2.5 Distribution of monthly bills



Thus, satellite sells a high-volume, high-quality service niche product that does not compete for the business of the core customer base of cable. As cable has been rolling out its digital offering over the past several years, it has been adding digital subscribers at a much higher rate than satellite has been and is now bundling high-speed Internet with digital service. Satellite cannot match this bundle. In other words, having never been threatened by satellite for its core lunch bucket market, cable is now attacking satellite's niche with its digital service. The weak and narrow competitive overlap between satellite and cable is likely to become weaker and narrower in the foreseeable future.

Market Power in the Video Product Space

Local and National MVPD Market Concentration

Head-to-head competition between cable companies is virtually nonexistent. Out of 3,000-plus cable markets, head-to-head competition exists in fewer than 200, although another 150 have certified entry. In short, only about 1% of franchise territories have experienced head-to-head competition among cable companies. Although a number of other communities have authorized additional overbuilding, this activity is slowing as the regional Bell operating companies pull back and pure over-builders retrench.[86]

Cable's dominance as the multi-channel medium is overwhelming, with subscribers in approximately two-thirds of all TV households. Its penetration is about four times as high as the next multi-channel technology, satellite. Because a large number of satellite subscribers live in areas that are not served by cable, competition in geographic markets is less vigorous than the national totals suggest.

This monopoly at the point of sale is reinforced by a strong trend toward "regionalization," in which one company gains ownership of many firms in a region. Clustering has increased sharply since 1994, up by almost 75%.[87] Just over one-half of all subscribers were clustered in 1997, but four-fifths were by 2000.[88]

The failure of competition in multi-channel video is most evident in local markets. Only one cable company serves more than 95% of U.S. homes have only one cable supplier.[89] Satellite has about 10 million subscribers in markets where cable and satellite meet. In these markets, there are only 8 million satellite-only subscribers. This suggests that cable retains a market share at the point of sale of well over 85%.[90] The HHI index at the local level is above 7,000. These market shares and levels of concentration make cable operators virtual monopolies.[91]

At the national level, the wave of concentration in the industry after

deregulation is striking. When cable was deregulated in 1984, the distribution segment was not concentrated at all (HHI about 350), with the equivalent of about 30 equal-sized competitors. A decade later, concentration had advanced to the point that the distribution segment had the equivalent of about 11 equal-sized competitors (HHI about 930), which is close to the moderately concentrated threshold. Although the FCC claims that the MVPD market falls just below the level of moderate concentration (HHI = 954), it arrives at this conclusion by ignoring AT&T's substantial direct ownership interests in Time Warner Systems and Cablevision, as well as its stake in Time Warner Entertainment. Taking AT&T's ownership interests into account places the cable TV market into the moderately concentrated category.

Cable Pricing Patterns Indicate the Abuse of Cable Market Power

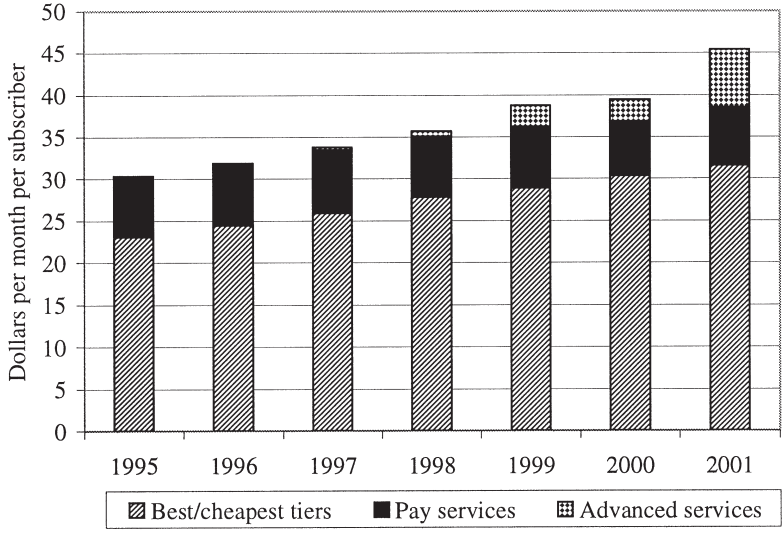
Despite a great deal of talk about changes in technology and more aggressive efforts to stimulate competition in the 1996 Telecommunications Act, rate increases during the period since its passage have been similar to increases in the period after the passage of the 1984 Act, when rates were partially, then fully, deregulated. In fact, rate increases resumed their earlier deregulated pattern of relentlessly rising at two to three times the rate of inflation (see Figure 2.1, above).

Since 1996, cable rates have increased by more than 40%, more than two-and-one-half times the rate of inflation.[92] Basic service rates have increased even more rapidly. Advertising and advanced service revenues have been growing even faster, and total revenue is up almost 60%.[93] On a per-subscriber basis, monthly revenues are up more than 50%. In the longer term, cable operators will continue to be able to raise prices at several times the rate of inflation. With the exception of the short period of regulation in 1992 to 1996, cable prices have been largely unregulated. Whenever they are unregulated, they increase at about 2.5 times the rate of overall inflation.

In addition to raising prices, the industry has restructured its revenue stream to make the most of its market power. It has engaged in bundling, price discrimination, and other anti-consumer behavior (including efforts to impose negative check-offs and tie-in sales), driving consumers to buy bigger and bigger packages of programs at higher prices. While basic packages were expanded and bundled to force consumers to pay higher prices, rates for pay services were flat.

Because consumers have been forced to buy more and more programs, the industry has been able to increase its advertising revenue even more sharply than its other sources of revenue (see **Figure 2.6**). Moreover, bun-

FIGURE 2.6 Cable revenue increases after passage of the Telecommunications Act of 1996



Sources: Federal Communications Commission, 1997, Appendix B; 1999, Appendix B; 2001B, Appendix B; 2002a, Appendix B.

dling the digital services (video and high-speed Internet) has driven a huge increase in new revenue.

This situation is a prime illustration of the theory of extraction of consumer surplus that can be found in economic and marketing literatures.[94] The companies never offer channels on an a la carte basis to determine if consumer demand exists. Consumers are forced to pay for the added, low-value channels because they do not want to give up the whole bundle. Because there is no competition, there is no real alternative. Policymakers should reject claims by the cable industry that its prices should be evaluated on a per-channel basis, because the industry does not allow consumers to buy its services that way.[95] Consumers are forced to take or leave the entire bundle, even if they only want a small part of it. The cable operators' ability to add channels to the expanded basic package allows them to charge more for the expanded basic service than it is worth.[96]

The cable industry response to satellite competition is to exploit market power in the lunch bucket segment, raising prices much faster than the inflation rate. Viewers with less-expensive tiers of cable programming are insen-

sitive to rate increases because DBS only competes with cable for multiple, pay-service tier subscribers (those who buy expensive sports and movie packages). Furthermore, cable multiple systems operators (MSOs) are able to extract monopoly rents from the lower-tier subscribers to cross-subsidize their competition with DBS for mega-service subscribers. It makes better economic sense for cable operators to increase prices than to hold them down. Cable makes much more money by increasing prices for basic cable than by competing in the DBS niche. Since the Telecom Act of 1996, the revenue gained by increasing cable prices to existing subscribers has exceeded the revenue lost from all DBS-only subscribers by almost 2-to-1 and from all DBS-only subscribers in areas where cable is available by 3-to-1. Cable revenue added from new subscribers, *at the higher prices,* just about equals cable revenue lost from new DBS-only subscribers in areas where cable is available.[97]

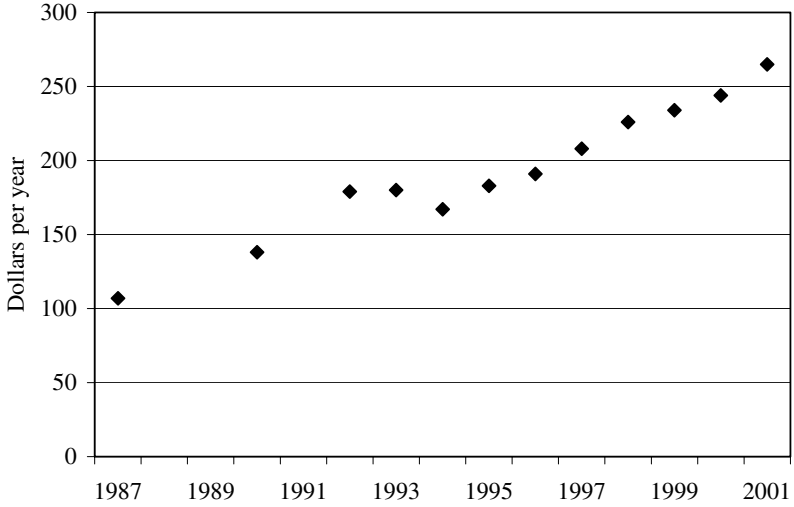
The failure of satellite to discipline pricing should come as no surprise. Even during the debate over local station delivery by satellite, the largest satellite provider eschewed price competition for the basic package.[98] The same was true on the cable side, where "anecdotal evidence shows that the response by large cable operators to increased DBS competition often includes the offering of new services such as digital tiers and Internet access, rather than ... [a] lowering [of] monthly charges." [99]

Driven by abusive price increases and bundling practices, cable industry revenue increased by more than $50 billion in the latter half of the 1990s. The bulk of those price increases went to the bottom line. Here the most relevant figures are operating revenue per subscriber (revenue net of operating expenses), which has increased by more than 40% since the 1996 act, more than three times the rate of inflation (see **Figure 2.7**). Note that the net revenue numbers track the price increase numbers in Figure 2.1 (above) closely.

The Bottom Line on Market Power Is the Bottom Line

For cable systems, the most frequently used measure of the extraction of value from consumers is the sale price of systems. When systems sell for a lot more than the cost to build them, the assumption is that entry barriers are preventing competition from driving down the price. The incumbent owners are clearly enjoying the benefits of the added value that barriers to entry are creating.[100] Entering the cable industry is extremely difficult. Incumbents hold a franchise and they resist overbuilding with a vengeance.[101] Moreover, even if a potential entrant exists, the integrated nature of the industry denies that entrant access to the programming necessary for competition.

FIGURE 2.7 Cable industry operating cash flow per subscriber



Source: Federal Communications Commission, 1994, Table 7; 1995, B-6; Table 1997, Table B-6; 2002a, Table B-4.

If we calculate the ratio of system sales prices to the cost to build them anew, we obtain a measure called Tobin's q.[102] The best and most direct interpretation of Tobin's q is that it represents a monopoly premium, earned by cable operators who possess market power. **Table 2.1** shows estimates of the transaction price for cable systems compared to the estimates of reproduction costs. There is no doubt that the q ratios increased tremendously after deregulation.

Sales prices for cable systems have increased sharply, whenever prices are deregulated. Since the passage of the 1996 act, sales prices of systems have more than doubled,[103] and monopoly rents collected by cable companies have increased accordingly (see **Figure 2.8**).[104] This measure of market power tracks real price increases closely, which is precisely what economic theory predicts. These estimates of Tobin's q demonstrate an important principle about the performance of monopolies, duopolies or tight oligopolies. Economic theory tells us that they will produce only to the point where marginal revenue equals marginal cost[105] within a market, so it is a good bet that they will apply roughly the same principle across markets. Entities that discover they can extend market power to a new product space are not going to lower their profits.

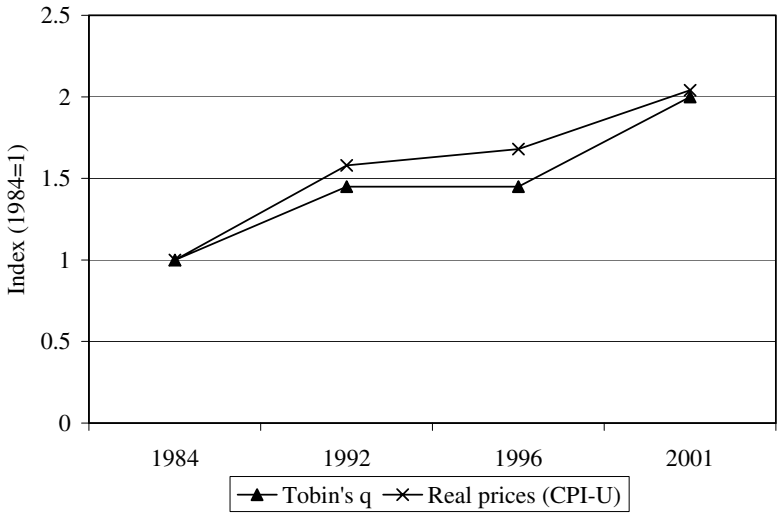
TABLE 2.1 Cable system Tobin's q

Year	System sale price (a)	Reproduction cost
1983	$1,000	$645 (b)
1986	1300	400-700 (c)
1988	2000	500-600 (d)
1992	1700	700 (e)
1994	1900	500(f) - 700 (g) - 800 (h)
1998	2900	N.A.
1999	4000	500-700 (basic) (j) [or:2000 (interactive) (j)]
2000	5900	1300 – 1500 (interactive) (f)
2001	4300(k)	N.A.

Sources:
a) Kagan Associates Inc., Cable TV Master Database, rounded to the nearest $100.
b) Vogel (1986).
c) Shooshan and Jackson (1987).
d) Shooshan and Jackson (1990) Johnson and Reed (1990).
e) Reed (1992, Tables 5.3 and B.8).
f) Hazlett and Bittlingmayer (2001).
g) Johnson, and Reed, 1990.
h) Bell Atlantic, 1994; U.S. West (1995).
(i) These are widely reported prices paid per subscriber in the wake of the AT&T-MediaOne deal.
(j) Morgan Stanley Dean Witter (1999).
(k) Federal Communications Commission (2002a. Table B-30. This estimate includes ATT/Comcast at $4500 per subscriber.

Finally, it should be noted that cable's relentless price increases may push its charges up to a limit set by satellite.[106] It would be fundamentally incorrect to claim that competition is working. The purpose of the anti-trust laws and the competition policy under the Communications Act is not to allow incumbents to collect monopoly rents of 20, 30, or 40% and then declare victory. Such an outcome implies substantial inefficiency and inequitable transfer of wealth from consumers to cable operators. The purpose of competition is to drive prices down to costs and squeeze rents out. There is no doubt that satellite is incapable of providing that competition with respect to cable.

FIGURE 2.8 Real price increases and monopoly rents (Tobin's q)



Sources: Real Prices calculated from U.S. Bureau of Labor Statistics, Consumer Price Index, as depicted in Figure 2.1; Tobin's q calculated from Table 2.1.

CHAPTER 3

Discrimination and anticompetitive practices of cable operators in video programming markets

The Dance of the Enlightened Elephants

By any definition, AT&T/Comcast would be a huge purchaser of video programming, controlling access to at least 26 million homes and having a significant ownership stake in cable systems that reach as many as 40 million households. Consequently, its role as a monopsonist has been a focal point in the merger proceedings. Moreover, the question of buyers' horizontal market power in multi-channel video markets has gained a great deal of attention in the ongoing review of the horizontal limit on cable ownership.

AT&T/Comcast and their experts argue that discrimination and anticompetitive conduct by cable operators in their roles as buyers of programming simply cannot and does not happen.[107] Two decades of evidence from the deregulated cable industry demonstrates that it does happen on a regular basis. Unleashing a dominant multiple systems operator (MSO) — the largest in the history of the industry — on programmers and the American public will make anticompetitive and discriminatory behavior all the more likely. That is exactly what the merger review is intended to prevent.

Cable experts argue that monopsony power does not matter in the cable TV industry because video programming is a highly differentiated product with high first copy costs.[108] If products are very different from each other, they possess attributes that distinguish them in the mind of the consumer, which enables the programmers who own popular content to withhold their products and force MSOs to enter fair and efficient deals.[109] Even where the cable operators might have market power, they claim that they share a strong interest with programmers to ensure the flow of quality programming, and that, as a result, they treat programmers fairly.

To make this analysis plausible, cable industry experts must dismiss

key facts about the cable market. Ordover, who presents the lengthiest discussion, assumes no ability to price discriminate,[110] no market power for the buyers,[111] a lack of specialized inputs,[112] fair competition for the sellers,[113] and highly differentiated products.[114] With the most challenging problems dismissed, the cable companies have reduced the entire analysis to a battle over rents, which they assume have no basis in public policy.[115]

To put a reasonable face on the "bargaining" that results, the cable experts must assume what is essentially a marketplace of huge and powerful programmers, some of whom are vertically integrated and face off against huge and powerful MSOs, some of whom are integrated.[116] In addition to vertical integration, other strategies that might help programmers survive are having large portfolios of programs[117] or selling in foreign markets.[118]

Independent producers and the consumer get trampled in the process. There is little room for independent, modestly sized, domestic producers of programming in this dance of the elephants. Therefore, in the hypothetical cable world, small independent entities depend on the enlightened self-interest of the cable operators to protect them. They need not fear, because in this fantasy world cable operators behave well. Indeed, the bigger the cable operator, the better they treat the small independent producers because they have too much to lose.[119]

> As an MSO's share of subscribers increases, it is more likely to recognize that its program purchasing decisions can affect the ability of a new program service to be successful. It recognizes both that it has something to gain by carrying the service and something to lose if the program service cannot gain enough subscribers overall in the market to generate an adequate subscription and advertising revenue to be financially viable…[120]

In Reality, the Elephants Crush the Grass and the Mice

Do the assumptions underlying the theory properly reflect economic reality? In the case of the cable companies, the answer is no.

The most dramatic demonstration that the theory and explanations offered by AT&T/Comcast and their experts are out of touch with reality can be found in the claim that programmers seek to have MSOs take an equity stake in their shows or desire exclusive arrangements to lower their risks or increase their profits.[121] The stumbling block for programmers is not raising capital or assembling talent to create shows. The only thing they lack is carriage.[122] Programmers have little trouble raising capital and as-

sembling talent to create shows. Programmers do not ask MSOs to take equity stakes or seek benefits in deals that prevent them from making their shows available to all means of distribution; MSOs extort equity or exclusive arrangements from programmers by withholding carriage. The MSOs control programming and undermine competing distribution systems with their anticompetitive and discriminatory practices.

In the late 1980s, TCI and Time Warner, both part owners of CNN, refused to carry a new NBC cable news channel when it was proposed to them.[123] Clearly, a new cable news channel could have had a competitive (which they view as negative) effect on CNN. Instead of considering the benefits for their viewers (an added news voice that creates new stories and perspectives) TCI and Time Warner worked to keep CNN free from competition.

A similar situation arose in the early 1990s and persisted throughout the decade vis-à-vis Rupert Murdoch, head of News Corp., who tried for years to get TCI and Time Warner to carry his conservative-slanted Fox News Channel so he could reach their tens of millions of viewers[124]. The operator goliaths already carried other News Corp. programming but refused to carry Fox News[125] because of the competition it would have created for their news channel and the opposing political stance the station would have taken. Without access to the viewers that TCI and Time Warner controlled, Murdoch saw that launching Fox News was not a worthwhile venture. In effect, he was prohibited from delivering his content.

To eventually receive carriage for Fox News, Murdoch had to loan then TCI "$200 million…and an option to buy 20% of the network." Other programmers who did not have an investment in the country's then largest MSO suffered. "To make room (for Fox News), Malone cleared out existing networks like a bowling ball cracking into the headpin. The arrival of Fox News in Denver pushed Court TV to split the programming day with Spice, a pay-per-view sex network."[126]

Fox fought a similar battle with Time Warner. In 1996, Time Warner (which owned a 20% stake in CNN's parent company, Turner Broadcasting) refused to allow any other cable network to compete with CNN on its cable systems.[127] The nation's largest cable operator at the time, TCI, also owned a stake in CNN and, as a result, would also not allow any competitive news services on its systems. Consequently, the U.S. public was denied an alternative news service – despite several attempts at entry from major programmers, e.g. NBC, into the 24-hour news channel business – until the consent decree in the merger of Time Warner and Turner forced the cable operators' hands.

The FTC consent decree[128] required the merged company to make avail-

able to at least 50% of its cable subscribers a second 24-four hour news channel in which it held no financial interest. It seems odd that the FTC would have to force a cable system to put a second news channel on its system if the MSO had no incentives to the contrary.

In August 1998, Time Warner Cable announced that it would launch an all-news, 24-hour TV channel in Austin, Texas, to be available to 220,000 area subscribers, with the specific intent of focusing on central Texas news. The A.H. Belo Corporation, a media company that currently owns 18 broadcast television stations and four daily newspapers nationwide (including four stations and the *Dallas Morning News* in Texas), had also planned to start a cable news channel during the following year.[129] In January 1999, Belo launched Texas Cable News (TXCN), another CNN-style cable news program that was to run in the Dallas-Ft. Worth area on TCI and Marcus Cable.[130] Belo intended to invest $15 million in TXCN over the course of 1999, and according to the broadcast division president Ward Huey Jr., they were already negotiating with Time Warner Cable for distribution on their cable systems in Austin, San Antonio, and Houston by the time of the announcement of the launch.

According to a February 26, 1999, article in the *Austin American-Statesman*, Belo then purchased KVUE Channel 24 in Austin from Gannett Company for $55 million and a Sacramento station (KXTV-TV).[131] The executive vice president of Belo was quoted as saying, "We have always wanted to get into the Austin market just because it not only is a good complement to what we already have, but it now gives us two-thirds of the homes in the state of Texas." The addition of an Austin channel would allow Belo to use KVUE's news reports on TXCN. However, the article stated flatly "…most viewers shouldn't expect to see TXCN in the Austin area any time soon. That's because the region's primary cable television provider, Time Warner Cable, is planning its own 24-hour news channel and isn't expected to carry TXCN." By May 1999, Time Warner Cable (TWC) still did not carry TXCN. Dianne Holloway reported in the *Austin American-Statesman* that, "Belo has been trying for months to break into the Austin television market with its Texas Cable News channel."

Bill Carey, president of Time Warner Cable in Austin, justified the decision to exclude TXCN by saying, "I'm sure [Belo] do what they do very well, but we haven't seen any interest among our customers in state news…. I think of news channels the way I do newspapers, and only local sells. News 8 [TWC's cable news channel] fills a badly needed niche: instantly accessible news and weather with a strong local focus. I don't know of any newspapers or news channels that succeed with statewide or regional news."[132]

In September 2000, Belo and Time Warner entered into an agreement that would allow the former to air its TXCN on TWC in exchange for splitting the $25 million bill to create two more cable news stations in Houston and San Antonio. In an article on the deal, Heather Cocks noted that Time Warner had "resisted carrying the Dallas media company's 18-month-old Texas Cable News because of a perceived conflict with the News 8 Austin station that Time Warner launched last year."[133] She quotes the senior vice president of Belo as saying, "We've been having conversations with Time Warner since we launched TXCN in January of last year, but it got serious this past spring… To be on cable in Texas, they're obviously a major player." The companies will split resources for the new channels, and the board of representatives for each channel will be 50% Belo and 50% Time Warner. The TXCN airs on channel 230 in Houston on Time Warner's digital tiers only.[134]

A particularly stark incident took place in 1990 when The Learning Channel (TLC) was being sold. TLC is a popular channel that is very valuable to any cable dial in terms of the public service and information it provides. Lifetime appeared to be the highest bidder, offering $40 million, and thought for sure it would acquire the network. TCI, though, threatened to remove it entirely from its systems if the channel was not sold to TCI[135]. However, TCI offered substantially less money and effectively lost the bidding war to Lifetime. Daunted by the prospect of having its network disappear, at least before the eyes of TCI's tens of millions of viewers, TLC was sold to TCI and Lifetime was left mistreated and without TLC. This illustrates how the largest MSO can leverage the programming market to increase profits and control the flow of programming.

Another instance of operators' tampering with programming revolved around the home shopping network boom. The early 90s were spent consolidating this branch of cable TV after the initial channels exploded with profits. What started as 35 channels, owned and operated by various people, was transformed into four channels (Home Shopping Network, HSN II, QVC, and QVC Fashion) all run by cable operators, with TCI owning a major stake in all four.[136] When nearly three-dozen home shopping channels existed, the home shopping industry resembled a mall, with choices galore and price differentiation. Unfortunately, such a consumer-friendly environment did not appeal to the cable operators who stood to profit far more from a viewer's inability to find a lower price. With TCI owning part of all four channels, it effectively was positioned to limit the competitiveness of these channels.

The arts channel Trio has "lacked the leverage to make cable operators sit up and take notice" since its 1994 launch, despite its digital tier

ambitions.[137] Consequently, the network's owners (which included the Canadian Broadcasting Company) decided it had to sell the channel to the well-connected Barry Diller's USA Networks. But the price to secure U.S. MSO carriage appears to have changed the channel's original mission of "films, dramas, and documentaries." Now, under Diller, the early 1970s series "Rowan and Martin's Laugh-In" will "anchor Trio's prime-time lineup along with reruns of the PBS music series "Sessions at West 54th." AT&T/Comcast and their experts have cited the ongoing dispute between Yankee Entertainment Sports and Cablevision as testimony that satellite is an alternative to cable.[138] YES does not see it quite that way. The suit is much more a testimonial to the discriminatory and anticompetitive practices of the industry.

YES alleges and provides facts to support its claim that the refusal to provide nondiscriminatory carriage is part of a scheme to prevent competition in sports programming[139] and preserve Cablevision's local monopoly in distribution.[140] It documents a history of threats to foreclose markets as a lever against programmers that goes back to the 1980s.[141] The demands of the operator include demands for equity[142] and exclusivity.[143] "Bargaining" with a dominant distribution incumbent involves take-it-or-leave-it-threats[144] of inferior placement,[145] discriminatory prices,[146] or exclusion from carriage. Programmers have little bargaining power,[147] particularly because denial of access to 40% of the market renders new programming unworkable.[148]

The market structure that conveys the power to distributors is precisely described in the YES proceeding. There is little direct competition in distribution – Cablevision has a 90% market share,[149] which remains insulated behind barriers to entry.[150] Market power has been acquired and reinforced by acquisition of distribution and programming.[151] Regional market power through clustering plays a critical role,[152] particularly for advertising markets.[153] Dominating specific programming categories generates both high profits and provides leverage to undermine competitors.[154] Cable operators have recently added bundling of high-speed Internet to their arsenal of anticompetitive practices[155]and have reinforced it with anticompetitive contracts.[156]

The Incentive and Ability to Discriminate

Cable company conduct reflects the exercise of the market power conferred by a concentrated, integrated industry structure. Companies do not conquer markets with innovation; they operate on a monopoly model that frustrates competition. They discriminate and use their control of distribution to defend their franchise product through anticompetitive practices.

Evidence of these problems is both qualitative and quantitative and comes from both integrated and nonintegrated companies. [157] Allegations of anticompetitive cable practices are not limited to industry critics. Occasionally the practices within the industry become so outrageous that the collegiality breaks down and even major players become involved in formal protests. Viacom and its affiliates, a group not interconnected significantly with the top two cabals in the industry, filed an antitrust lawsuit against the largest chain of affiliated competitors in its New York territory.[158] (Ultimately, it sold its distribution business to its competitors.) The ongoing dispute between YES and Cablevision is another example.[159]

Integrated MSOs have a long history of granting preferential access to subscribers for affiliated programmers (content providers) and denying access to content providers with whom they are not affiliated. As the MSO becomes larger and larger, this practice increasingly undermines prospects for competition in the program production and supply market. Price discrimination against competing programming (e.g. refusing to pay the full market price for those shows),[160] refusal to carry such programming,[161] competitive programming placed at a disadvantageous location on the dial (e.g., very high, near other programs with low ratings),[162] and refusal to deal for programming due to loopholes in the law requiring nondiscriminatory access to programming[163] have once again become common practice in the cable industry.[164]

Cable operators that are not integrated into programming also have mechanisms to gain advantage. The landscape of the cable industry is littered with examples of anticompetitive practices, including exclusive arrangements that prevent competing technologies (such as satellite) from obtaining programming,[165]and prevent competition from developing within the cable industry.[166] These include, for example, exclusive deals with independent content providers that freeze out over-builders or competing phone satellite or cable networkers,[167] tying arrangements,[168] and denial of access to facilities.[169] Large MSOs often secure "most favored nation" clauses from programmers. Such clauses are supposed to guarantee an MSO a price as good as any other operator pays for programming, sometimes excluding Time Warner and TCI.[170]

To properly understand discrimination, analysts must pay careful attention to the actual reason for discrimination, i.e., analyze programs within specific categories of programming. The issue of product differentiation discussed above is more complex than the cable theorists admit, and it provides a good starting point for examining the cable industry's programming analysis. Different categories of programming – such as news versus entertainment – are clearly differentiated. There is also an effort to

differentiate within program categories through branding. Hit comedies are distinct and the producers of such programs may have bargaining power. However, the industry engages in a process of rival imitation.[171]

> When a differentiated products view is taken, discrimination is apparent.
>
> Operators who own premium cable services offer, on average, one fewer premium service than do other operators. In particular, operators who own premium movie services are less likely to carry the rival basic movie service, American Movie Classics (AMC). In addition, TCI and Comcast, two operators who own the basic shopping service, QVC, are less likely to carry both QVC and HSN. These results are statistically significant and establish that premium operators and certain basic operators are less likely to carry rival services.[172]
>
> While differences are often insignificant or minor, a consistent general pattern emerges: Integrated cable systems tend to "favor" the programming with which they have ownership ties, either by carrying those networks more frequently than would otherwise be expected or by pricing them lower or marketing them more vigorously. Our analysis also shows that integrated systems tend to disadvantage unaffiliated networks in those same respects, at least if the latter are good substitutes for affiliated programming. Integrated systems also tend to offer fewer cable networks in total, although the differences are very small. The dominant effect appears to be that integrated cable systems replace unaffiliated networks with similar, affiliated networks. A separate analysis of the effects of vertical integration on larger channel capacity systems suggests that those effects of integration will persist, though they will diminish, as channel capacities expand or VOD systems are developed.[173]

It is also important to recognize that complete foreclosure is not the only concern. The terms and conditions of carriage are at least as important. The vertically integrated firms defend the marquee programming in which they have a direct interest by frustrating entry and extracting rents from others MSOs.

> The power to foreclose also implies the ability to force down the license fees that an MSO pays to networks. Some anecdotal evidence suggests the possibility that larger MSOs hold significant monopsony power in the programming market.[174]
>
> Carriage data provide an incomplete picture of vertical integration's effects on premium networks. In particular, even if both affiliated and unaffiliated networks are carried, an integrated system might price them

> differently to subscribers. Personal selling and other marketing tactics offer other opportunities for system operators to favor one available network over another. For the most part, those subscribership results suggest that integrated systems also tend to favor their affiliated premium networks in pricing and promotion behavior.[175]

The published analysis is quite strong on the foreclosure finding. It provides a detailed understanding of foreclosure motivations and behaviors. Integrated owners of basic programming, whose profits rise by increasing basic subscribers, exclude competitors from their basic package but offer more of their own basic packages and more premium packages.[176]

Owners of premium services foreclose competitors and sell more of their own, but offer fewer services at higher prices.[177] Although the published research on foreclosure to which the commission points is strong on finding foreclosure, it is weak on the consumer welfare impact of vertical foreclosure.[178] At best, the result for basic services is more variety, but less diversity of ownership.[179] The change in welfare is positive (because of more subscribers) but not statistically significant. Measured purely in economic terms the conclusion is "that consumers in unintegrated markets are certainly no better off than consumers in integrated markets, despite the tendency of integrated operators to exclude certain program services."[180]

In the leading study in the field, Waterman and Weiss find that horizontal market power is the central concern. Indeed, they advocate lowering the merger cap to a 20% market share on grounds very similar to those we identified in our initial comments. The study finds vertical integration is clearly associated with discriminatory carriage rates. The study finds that there are both strategic (anticompetitive) and efficiency considerations that are consistent with the findings of vertical foreclosure. Therefore, they hesitate to condemn vertical integration. Nevertheless, they conclude that economies of scale are not strong enough on the MSO side to justify a merger cap above 20%.[181]

The natural tendency of the industry's largest players to discriminate was documented in the Time Warner/Turner/TCI merger proposal. The FTC rejected the merger proposal and imposed conditions on the applicants. It rejected a preferential deal for TCI's purchase of Time Warner programming and required TCI to reduce its level of ownership in Time Warner to less than 10% of nonvoting stock (i.e., a non-attributable, passive level of ownership) [182]:

In the Time Warner/Turner/TCI merger analysis, the FTC found that entry into the distribution market was difficult:

> Entry into the sale of Cable Television Programming Services to households in each of the local areas in which Respondent Time Warner and Respondent TCI operate as MVPDs is dependent upon access to a substantial majority of the high quality, "marquee" or "crown jewel" programming that MVPD subscribers deem important to their decision to subscribe and that such access is threatened by increasing concentration at the programming level, combined with vertical integration of such programming into the MVPD level.[183]

The FTC's enumeration of the ways in which the Time Warner/Turner/TCI merger threatened to lessen competition is instructive for both the cable TV and the broadband Internet markets. First, with respect to programming, the FTC saw a number of grounds for believing competition would be lessened:

> enabling Respondent Time Warner to increase prices on its Cable Television Programming Services sold to MVPDs, directly or indirectly (e.g., by requiring the purchase of unwanted programming). Through it's increased negotiating leverage with MVPDs, including through purchase of one or more "marquee" or "crown jewel" channels purchase of other channels.
>
> enabling Respondent Time Warner to increase prices on its Cable Television Programming Services sold to MVPDs by raising barriers to entry by new competitors or to repositioning by existing competitors, by preventing such rivals from achieving sufficient distribution to realize economies of scale; these effects are likely, because
>
> Respondent Time Warner has direct financial incentives as the post-acquisition owner of the Turner Cable Television Programming Services not to carry other Cable Television Programming Services that directly compete with Turner Cable Television Programming Services;[184]

The cable TV programming market has not changed since the FTC made these observations. If anything, it has gotten much worse, if for no other reason than it has an additional "crown jewel" to use against competitors and unaffiliated programmers – high-speed Internet access.

Over-builders (of new systems that would compete with existing cable companies) have faced vigorous efforts to prevent competition through exclusion from access to programming and through the regulatory tactics of incumbent cable operators.[185] Comcast has shifted some sports programming to terrestrial delivery, thereby avoiding the open access

requirement of the 1992 statute. As cable operators become larger and more clustered, this strategy will become increasingly attractive to them. Specific areas where such programming has been denied to new providers of MVPD services are Phoenix, Kansas, Philadelphia, and New York. The denial of access to marquee sports programming can have a devastating effect—satellite providers in markets where foreclosure has occurred achieve a market penetration only one-quarter of the national average.[186]

First, integrated MSOs wield immense power against smaller cable companies, exploiting loopholes in the program access rules.[187] For the smaller entities, the current refusals to sell programming by integrated MSOs are not limited to sports programming. Other services have been denied, such as video on demand.[188]

Second, where the large MSOs do not have direct ownership of video services, they have obtained exclusive arrangements, thereby denying competitors and potential competitors access to programming.[189] The exclusionary tactics apply not only to head-to-head cable operators and satellite providers, but also to DSL-based providers seeking to put together a package of voice, video, and data products. Bundling is critical to entry into the emerging digital multimedia market.[190]

Third, because the dominant MSOs are so large, they can persuade important programmers not to sell to competitors and potential competitors. As the FCC noted, Ameritech and the WCA found that they were cut off from programming.[191] One of the more prominent examples was summarized in the recent program access proceeding as follows:

> It is well known, for example, that News Corp. abandoned its 1997 joint venture with Direct Broadcast Satellite (DBS) operator EchoStar Communications Corporation (EchoStar) after incumbent cable operators responded to the transaction by refusing to discuss carriage of Fox Cable programming. Unwilling to put the financial viability of Fox's programming at risk, News Corp. took the path of least resistance, left Echostar at the altar and switched its affections to the cable-controlled PrimeStar DBS service
>
> "Time Warner, Inc. and [Fox] appear to have entered a symbiotic truce following [Fox's] new proposed affiliation with cable TV industry-owned Primestar Partners L. P. [Fox] originally proposed a merger with EchoStar Communications Corp. to compete with cable TV operators. But according to industry sources, [Fox] received not-so-subtle signals from cable TV operators that its cable TV programming would have trouble finding carriage on their systems if the EchoStar deal went through.

> It was also reported that News Corp.'s abandonment of its joint venture with EchoStar was a prerequisite for at least one cable Mao's blessing of Fox's $2 billion acquisition of the Family Channel.[192]

The problem is not simply one of complete exclusion. Dominant, vertically integrated MSOs can inflict "discriminatory or excessively burdensome terms and conditions on programming distribution."[193] Recent comments in the program access proceeding point to an even starker demonstration of the power of cable to engage in content discrimination. Joint Comments (2001) note that the "retransmission consent process has provided even more evidence of the economic power that incumbent cable operators hold over programming services, even those owned by NBC, CBS and ABC."[194] Here, cable market power is evidenced not by pricing, but by the ability to deny content to competing conduit providers.

NBC, for example, surrendered exclusivity for the MSNBC cable network to incumbent cable operators in exchange for carriage of NBC broadcast stations. Similarly, during retransmission consent negotiations for carriage of CBS stations, CBS surrendered exclusivity for its own news-oriented cable channel, Eye on People. The Joint Parties have also learned that ABC surrendered exclusivity for the Soap Net cable network to MSO Charter Communications in the Los Angeles market during retransmission consent negotiations for ABC broadcast stations. In other words, when confronted with dominance of the largest cable MSOs in local markets, NBC, CBS, and ABC, like Fox, acquiesced to the MSOs' demand that they withhold their cable programming from competing distributors.

Dominance in Programming

The repeated examples of anticompetitive conduct do not comport with the image of a benign, efficiency-enhancing monopsonist offered by cable company experts. A second problem with the benign picture they paint is the fact that a small number of companies dominate the programming side of the multi-channel video market and have done so for a decade.

Programmers that have hit shows that are distinctive and well-branded may have some bargaining power, but there are very few of them. How new entrants get into that position is unclear, especially when integrated entities can foreclose the market or discriminate against new entrants. There is very little entry by unaffiliated entities and very little churn in the ownership of programming.

The program development patterns also contradict the cable industry's

rosy view. We start our analysis with the popular networks and work down from there. The commission's annual reports provide a basis for assessing the movement in the most popular program networks (see **Table 3.1**). To be consistent, we identified the top 20 networks by subscription and the top 15 by prime-time ratings (in 1993) by subscription (2000) as reported in the first and eighth *Annual Reports on Video Competition*. The last column in Table 3.1 reports ownership of each program network, where an MSO is involved. These program networks account for more than half of cable's prime-time subscribers and about one-third of cable's all-day viewers. There are 26 networks on the two lists. Of these, 23 are on both lists. All but one of them (the Weather Channel) has ownership interest in either a cable MSO or a broadcast network. In other words, it appears that you must either own a wire or have transmission rights to be in the top tier of program networks. Four entities — AOL, Liberty, ABC/Disney and CBS/Viacom—account for 20 of these top program networks.

The program ownership dominance of a few cable or broadcast entities is not restricted to the most popular shows that generally were established before the passage of the 1992 Act. As **Table 3.2** shows, of the 39 new networks created since 1992, only six do not involve ownership by a cable operator or a national TV broadcaster. Sixteen of these program networks are owned in part by the top four programmers. Eight involve other MSOs and 10 involve other TV broadcasters. These numbers contradict the claim that there has been a dramatic change in the programming environment. The number of independent program networks as a percentage of the total has remained about the same, as has the number of subscribers to independent networks.

Moreover, each of the dominant programmers has guaranteed access to carriage on cable systems – either by ownership of the wires (cable operators) or by carriage rights conferred by Congress (broadcasters). Cable companies count as a "subscriber" each home to which a channel is available. Thus, if a cable system carries a network, then every customer who subscribes to the cable tier on which that network is placed is considered to be a subscriber to that network, even if the customer never watches it. This is roughly equivalent to the audience for broadcast channels. All households who could tune to a broadcast channel make up the audience. To reconcile these two concepts, we identify subscribers to cable systems and the audience for networks (cable or broadcast). The audience is much larger than the total number of subscribers, because each subscriber has many networks available.

TABLE 3.1 Concentration of marquee programming

Network	1993 Sub-scription rank	1993 Prime Time rank	2000 Sub-scription rank	2000 Prime Time rank	Ownership
ESPN	1	4	4	12	ABC/DISNEY
CNN	2	12	11		AOLTW
USA	3	1	5	2	LIBERTY
NICK	4	6	10	6	CBS/VIACOM
DISCOVERY	5	10	2	8	LIBERTY
TBS	6	2	1	5	AOLTW
TNT	7	3	3	3	AOLTW
CSPAN	8		12		CABLE CONSORTIUM
MTV	9	13	15	14	CBS/VIACOM
LIFETIME	10	7	9	1	ABC/DISNEY
TNN	11	11	13	10	CBS/VIACOM
FAMILY	12	8	6		FOX/ABC/DISNEY
A&E	13	9	7	7	ABC/DISNEY
WEATHER	14		13		
HEADLINE NEWS	15		17	17	AOLTW
CNBC	16		18		NBC
VH-1	17		20		CBS/VIACOM
QVC	18		16		COMCAST
AMC	19		19		CABLEVISION
BET	20	14		19	CBS/VIACOM
WGN	21			9	LOCAL BCAST
CARTOON		5		4	AOLTW
SCI-FI	1	5		16	LIBERTY
TLC				14	LIBERTY
HISTORY				11	ABC/DISNEY
FX				15	FOX

Federal Communications Comission, 1994, Tables 7, 8; 2002a, Tables D-6, D-7. First and Eigth Reports.

- AOL Time Warner has ownership in cable systems reaching more than 12 million subscribers and cable networks with more than 550 million in-the-audience subscribers,
- Liberty Media owns some cable systems and has rights on AT&T systems and owns cable networks with approximately 880 million in-the-audience subscribers,
- Disney/ABC has must-carry retransmission rights and ownership in cable networks reaching almost 700 million in-the-audience subscribers,

TABLE 3.2 Dominant video program producers/distributors

	Subscriptions (Million)	% Share	Writing Budget (Million)	% Share
AOL – TIME WARNER	935	15.6	$206	16.8
CBS/VIACOM	910	15.1	145	11.8
ABC/DISNEY	705	11.8	132	10.8
LIBERTY	540	9.0	106	8.6
NBC	495	8.3	53	4.4
FOX	400	6.6	130	10.6
Subtotal Top 6	3,985	66.4	772	63
TOTAL	6,000	100.0	1,225	100.0

Note: Subscriptions computed as the number of subscribers for each cable network and the cable total is 4.9 billion subscribers. Total subscription count also includes 1.1 billion subscribers to local, over-the-air channels.

Sources: Writers Guild of America, 2002, Federal Communications Commission, 2002a, Table D-1, D-2, D-3, Cahiers, TVInsite, Network, 2001.

- Viacom/CBS has must-carry retransmission rights and ownership in cable networks reaching approximately 625 million in-the-audience subscribers.

These four entities have ownership rights in 20 of the top 25 programming networks based on subscribers and prime-time ratings (Table 3.1, above). They account for more than 60% of subscribers to cable networks, rendering this market a tight oligopoly. Other entities with ownership or carriage rights account for four of the five remaining most popular networks. The only network in the top 25 without such a connection is the Weather Channel. It certainly provides a great public service, but is hardly a hotbed for development of original programming or civic discourse. Entities with guaranteed access to distribution over cable account for 80% of the top networks and about 80% of all subscribers' viewing choices on cable systems.

When we examine the ownership of all the program-providing networks, we discover that almost three-quarters of them are owned by six corporate entities (see Table 3.2).[195] The four major TV networks, NBC, CBS, ABC, and Fox, and the two dominant cable providers, AOL Time Warner and AT&T/Liberty, completely dominate the tuner. Estimates of

the writing budgets of these producers are generally consistent with the subscriber counts.

Similarly, a recent cable analysis identified 39 networks that have achieved substantial success since the passage of the 1992 Act (see **Table 3.3**). Of these, 33 (85%) are affiliated with an entity that has guaranteed carriage. Ten of these also use scraps from the cutting room floor to launch programs, or exist as a spin-off of a sister channel. In the case of the spin-offs, they use the name of the successful show and focus on a subcategory of issues or ideas originally covered by the hit show (CNN begets CNN Headline News and CNNFI). In the case of cutting-room floor shows (particularly news) they use content created but not used by the hit show, as well as simply reuse content. Viewers receive a 10-second sound bite on the broadcast news and a three-minute interview on the cable news. Four others are based entirely on re-runs and old movies.

Finally, claims that independent programming can succeed without achieving high levels of subscription do not stand up to close scrutiny. The cable operators identify nine such channels that "sold out" early (see **Table 3.4**). Two of these program networks were bought out very early by distributors. Three additional networks were also affiliated with MSOs/broadcasters that initially launched through the cutting-room floor/sister channel strategy. Three have disappeared. The average number of subscribers at the time of a sales transaction was 22 million. There are three networks on this list with 20 million or fewer subscribers, two associated with broadcasters and one with an MSO (although five sold out at 20 million or less, two of those resold). Of the three networks that were sold with 20 million or fewer subscribers, all are now defunct. They have been acquired by dominant programmers in the same category and have ceased to exist.[196] The ability of a programmer to sell out if they encounter discrimination, and at a much lower rate of profit than that of the dominant firms, hardly indicates a healthy industry.[197]

Market Power Exists at 30% Market Share

Sustainable market entry of programs into the market has been the focal point of analysis in the FCC's implementation of the 1992 act that required the commission to place a limit on the number of households a cable company could serve.[198] The 30% limit has been the object of continuous litigation since its adoption.[199] Cable companies argue the limit is far too low, under a theory that only collusion or unilateral action can be the basis for anticompetitive behavior.[200]

Economic theory and antitrust practice have long recognized that mar-

TABLE 3.3 The lack of independent entry

Network	Launch	Owner
Cartoon Network	1992	MSO
Sci-Fi Network	1992	MSO
Turner Classic Movies	1994	MSO
Independent Film Channel	1994	MSO
WAM! Kidz Network	1994	MSO
Much Music USA	1994	MSO
Golf Channe	1995	MSO
Outdoor Life	1995	MSO
Great Amer.	1995	MSO
Animal Planet	1996	MSO
CNNFI	1996	MSO
CNNSI	1996	MSO
BET Jazz	1996	MSO
WE: Women's Entertainment	1997	MSO
Discovery Health Channel	1998	MSO
Tech TV	1998	MSO
Style	1999	MSO
Oxygen	2000	MSO
TV Land	1996	BROADCAST
Soapnet	2000	BROADCAST
Nat. Geog	2001	BROADCAST
ESPN 2	1993	BROADCAST
FX Network	1994	BROADCAST
History Channel	1995	BROADCAST
ESPN Classic	1995	BROADCAST
Fox News Channel	1996	BROADCAST
MSNBC	1996	BROADCAST
Speedvision	1996	BROADCAST
ESPNews	1996	BROADCAST
Fox Sports	1996	BROADCAST
LMN	1998	BROADCAST
Home & Garden	1994	BROADCAST
Food	1993	BROADCAST
Flix	1992	INDEPENDENT
Game Show Network	1994	INDEPENDENT
Bloomberg	1995	INDEPENDENT
Health	1998	INDEPENDENT
Goodlife	1998	INDEPENDENT
Ovation	1998	INDEPENDENT

Sources: Joskow and McLaughlin, 2002; Table 2, Writers Guild of America, 2002, Appendix A; Federal Communications Commission, 2002a, Tables D-1, D-2, D-3.

TABLE 3.4 Sell-out/buy-out of new entrant networks

Network	Owner	Sale date	Sub-scribers	Exists
FX	BROADCAST	10/95	25	Y
AMERICA'S TALKING	BROADCAST	12/95	20	N
FOOD		5/96	25.8	Y
GOLF	MSO	8/96	3.8	Y
" 2nd Sale		2/00	30	
" 3rd Sale		5/01	33.4	
TECH/TV	MSO	6/97	9	Y
" 3rd Sale		11/99	14	
CLASSIC SPORTS		9/97	10.4	N
EYE ON PEOPLE	MSO	12/98	11	N
SPEEDVISION	BROADCAST	5/01	42	
OUTDOOR LIFE	MSO	5/01	36	Y

Source: McLaughlin and Joskwo, Table 4.

kets with small numbers of participants are conducive to the anticompetitive behavior that results from routine behaviors of uncoordinated games. In fact, the FCC's 30% limit is too low.[201]

Interpreting the congressional charge narrowly, the FCC set out to identify situations in which a small number of cable-system owners could prevent programming from successfully getting to market. This foreclosure analysis sought to identify how much of a wide "open field" was necessary to provide programmers with a chance of getting in front of enough viewers to succeed. The FCC took a very narrow and conservative approach in three ways.

First, it erred by defining the word "impede" to mean foreclose. Foreclosure is only the most extreme form of anti-competitive behavior that could impede producers from getting their product to market.

Second, it erred when it identified the risk as any ***two*** large cable operators, acting in parallel or concert, to foreclose the market to a new entrant programmer. The theory of non-cooperative games shows that harm can occur from the behavior of a larger number of actors.

Third, the FCC erred by defining very conservatively the size of the open field needed. That is, it set the size of the open field at a very low level. The hearing record indicates that a much larger open field may be necessary.

The FCC determined that achieving a market of 15 to 20 million subscribers was necessary. There was strong evidence that a larger number

would be necessary to become attractive to advertisers. The comments generally agree that 30 to 40 million subscribers are necessary to attract advertising revenue.[202]

The FCC then estimated the number of MSOs that might take (or not take) a show, even after there had been a decision to allow a show to be offered to MSOs. It found that the average carriage rate is between 36% and 53%. This led to an estimate of the size of the open field needed for programs to have a reasonable chance to succeed.

The horizontal limit was then calculated by estimating the number of subscribers who could be controlled by two MSOs that would not exceed the open field. This number was divided by 2 and taken as a percentage of the total market. The maximum MSO market share available under that analysis ranges from 15% to 33%. Based on this analysis, the limit could easily have been set at a market share of 20 or 25% to prevent foreclosure of new programming. Indeed, the FCC discussed the 20% limit, but rejected it on the grounds that MSOs need larger scale for economic efficiency. The FCC also could have divided the open field by three or four, because anticompetitive outcomes are plausible with such small numbers of market participants in markets that would be oligopolies.[203]

The rule was developed several years ago, and the FCC has repeatedly found that programming costs have increased. If costs are increasing so dramatically, and assuming a competitive programming market as the FCC does, the minimum market to be successful could well have grown. For example, Comcast is quoted as courting 20 to 30 million subscribers for a highly targeted niche offering.[204] Networks need to debut with 10 million subscribers and quickly reach 30 million just to survive.[205] As the commission noted three years ago, "most digital networks can expect to run without advertising until they reach the 30 million subscriber count or higher."[206] Bravo, seeking a more mass audience network, claims to need 60 million to do a good job.[207]

PART 2

High-speed Internet service

CHAPTER 4

Unique characteristics of digital communications platforms

A Multi-Purpose Communications Platform

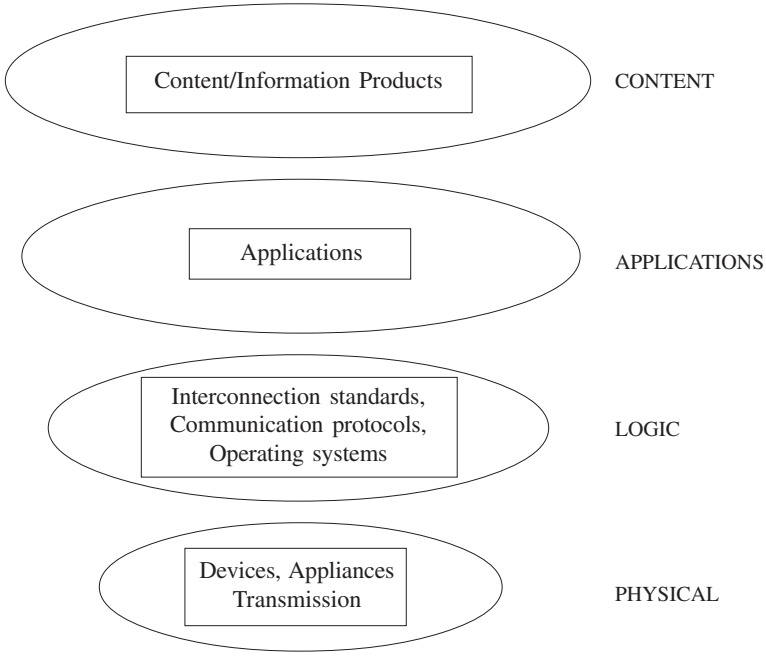
To evaluate the impact of the AT&T/Comcast merger, policy makers must also think of the cable industry as a communications platform that provides an environment in which information or content is produced (see **Figure 4.1**). Four layers – the physical layer, the logic or code layer, the applications layer, and the content layer – comprise the communications platform.[208] It is a platform because the layers are complimentary.[209] They must fit together closely and smoothly to deliver service.

The physical layer comprises three parts: a transmission medium (e.g., wires), communications equipment, and display devices. In the contemporary cable industry, the transmission medium is primarily hybrid fiber coaxial cable that provides the last-mile connection to the residence. Fiber optic cables are found in the backbone of the network. Network communications equipment involves a head-end for video and a CMTS for video and routers and switches for the Internet. The customer's on-site communications equipment for video is the set-top box. It connects the display device, the TV, to the network for video information services. The modem is the communications equipment that connects the PC, the information display device, to the network for information services.

The logic (or code) layer involves the codes, protocols, and standards with which communications equipment and display devices interconnect, interoperate, and communicate. Protocols interpret the signals. Operating systems allocate and coordinate the resources of the system. The operating systems and communications protocols can reside in communications equipment and devices or network equipment.

Applications constitute the third layer. Applications are programs that execute a sequence of steps to solve a problem or perform a task for the user. Well-known examples are e-mail, instant messaging, and file sharing.

FIGURE 4.1 Layers in the communications platform



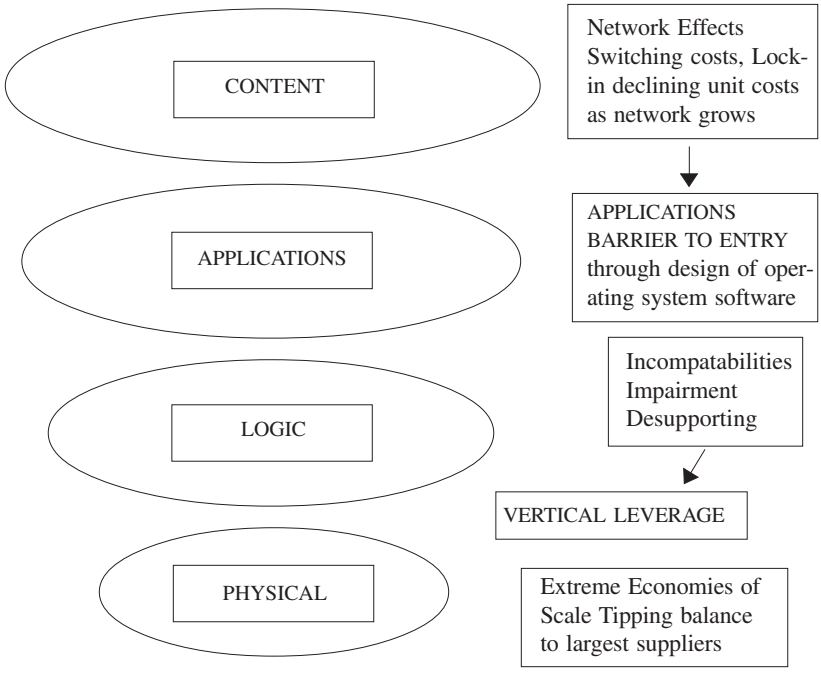
The content layer is made up of the specific task or problem solved in a given execution of an application. The end-user or a service provider can provide content.

Platforms Facilitate the Exercise of Market Power

The vertical integration issue in the cable industry presents an apt starting point for demonstrating why this second perspective is important in analyzing the digital cable industry and the impact of the proposed merger of Comcast and AT&T (see **Figure 4.2**).

In traditional industries, business practices exploit the company's power gained through its vertical organization. Companies vertically integrate to internalize transactions. They may do so for efficiency reasons, but in the process they withdraw business from the open market. When they constitute a large share of the market or refuse to buy or sell intermediate inputs

FIGURE 4.2 Obstacles to competition in the communications platform



(or raise the costs of rivals) the impact can be (intentionally or unintentionally) anticompetitive. A recent, well-known example of vertical integration anti-competitiveness within a traditional industry is in the gasoline industry. When an independent refinery is taken over by a vertically integrated refiner/marketer of gasoline, the output of the refinery that used to be available at wholesale to independent marketers is either taken off the market or goes up in price.[210] This raises competitors' costs and the market price. The gasoline could be sold by any independent; it is simply unavailable or expensive as a matter of business practice. A simple antitrust remedy would require the sale at a pre-set price.

In a platform industry, vertical leverage can take another (perhaps more insidious) form – technological integration or manipulation. Introduction of incompatibilities can impair or undermine the function of disfavored network elements. Communications or information industries are platforms because of the close, technical, complementary relationship among

the platform's layers. The layers must interoperate seamlessly for the communications network to function. The ability to undermine interoperability is an extremely powerful tool for excluding or undermining rivals and thereby short-circuiting competition. A prominent example of this practice is Microsoft's ability to manipulate the personal computer operating systems to undermine the functionality of, or completely shut down, competing applications. Programs from other vendors often simply do not run. Ordering Microsoft either to un-bundle its applications or to ensure full compatibility is, by all accounts, a much more difficult task than just setting a price.[211]

The network effect heightens market power concerns for information production and communications platforms. Each network's production and distribution become more valuable as more people have access to it. Communications systems exhibit strong network effects. The classic case is the telephone network (or the Internet), through which each individual derives greater benefit through the ability to contact numerous other individuals directly.[212]

There are economic efficiencies inherent in building a large base of users with network technologies. As the number of users grows, economic benefits are created on both the supply and the demand sides. By increasing the number of units sold, the cost per unit falls dramatically.[213] On the supply side, certain industries, such as information production, software, and network industries, tend to have high fixed and front-end costs. Cost savings may apply not only to initial production costs, but also to service and maintenance costs.[214] As the installed base of deployed hardware and software grows, learning and training in the dominant technology is more valuable because it can be applied to more users and uses.[215] Success breeds success.[216] On the demand side, as more consumers use a particular technology, each individual consumer can derive greater benefit from it. Larger numbers of users seeking specialized applications create a larger library of applications that become available to other users.[217] Secondary markets also may be created.

Information products and communications platforms also exhibit strong economies of scale combined with network effects that may lead to a unique market characteristic called tipping. As one entity gains market share, its costs fall so rapidly that competitors are at a severe disadvantage. Given the network effects and the ability to set standards, the market tips toward one producer. Firms seek to capture these positive externalities and accomplish technological "lock-in."[218] These processes create what has been called an "applications barrier to entry." After an early entrant captures the first generation of customers and builds a customer and programming base

tied to dominant software, it becomes difficult, if not impossible, for later technologies to overcome this advantage. Customers hesitate to abandon their investments in the dominant technology and customer acquisition costs rise for late-comers.

It has long been recognized that the economic characteristics of information production and communications networks make it highly unlikely that media and communications markets will be made up of numerous companies competing vigorously (atomistically competitive).[219] Rather, they tend, at best, to be tight, differentiated oligopolies or monopolistically competitive,[220] or natural monopolies.

Public policy has been chiefly concerned with preventing the abuse of market power that stems from the small number of providers that typify these markets. At various times and in different layers, this policy has included engaging in structural regulation of ownership, setting standards, requiring carriage of programming, considering public interest obligations for content, regulating rates, and so forth. In the last several decades, promoting competition through a wide range of mechanisms at all layers of the communications platform has received increased policy emphasis.

The Dynamic Environment of Open Digital Communications Platforms

Technological Underpinnings of the Internet Revolution

Public policy to promote open communications platforms interacted with major developments in technology to produce a uniquely dynamic communications platform in the last two decades of the 20th century. The growth of the Internet and its underlying technologies changed the fundamental economics of information production.

> "As rapid advances in computation lower the physical capital cost of information production, and as the cost of communications decline, human capital became the salient economic good involved in information production."[221]

At the physical layer, cheap, powerful computers are the rapidly proliferating muscle of the digital economy.[222] Its vertebrae are the sprawling fiber-optic networks that allow these machines to communicate at rising speeds with falling costs.[223] In the computer hardware industry positive feedback loops, or virtuous circles, sustain change and productivity growth that are orders of magnitude larger than the change and productivity growth that occurred during the industrial age.[224] Advances in computing technol-

ogy support more advances in computing technology with much greater intensity than advances occur in other industries. The positive feedback effects stimulate much more dynamic economic development than simple efficiencies do.[225]

In the code and applications layers, a software revolution is the nervous system that enables the messages to be routed, translated, and coordinated.[226] Standardized and pre-installed bundles of software appear to have allowed the rapidly expanding capabilities of computer hardware to become accessible and useful to consumers who have little expertise in computing.[227] As computers got cheaper and cheaper and applications became more abundant and user-friendly, computers ceased being merely workplace or laboratory tools and became consumer electronic devices.

At the content and logic layers every sound, symbol, and image can now be digitized.[228] The more complex the sound or image, the more data has to be encoded and decoded to accomplish the digital representation.[229] But, when computing speeds, storage capacity, and transmission rates become big enough, fast enough, and cheap enough, it becomes feasible to move huge quantities of voice, data, and video over vast distances.

The resulting change arises not only from the intensity of the factors of production, [230] or even their speed, but also from a fundamental change in relationships between the factors of information production.

> It is a proven lesson from the history of technology that users are key producers of the technology, by adapting it to their uses and values, and ultimately transforming the technology itself, as Claude Fischer demonstrated in his history of the telephone. But there is something special in the case of the Internet. New uses of the technology, as well as the actual modifications introduced in the technology, are communicated back to the whole world, in real time. Thus, the time span between the process of learning by using and producing by using is extraordinarily shortened, with the result that we engage in a process of learning by producing, in a virtuous feedback between the diffusion of technology and its enhancements.[231]

This process enables a wholly new form of information production to exist on a sustainable basis[232] as it transforms existing organizations. The new thrust of corporate organization, based on distributed intelligence and flat structure, reflects these forces.[233] Hierarchy is out; horizontal is in.[234] The ability to coordinate at a distance dramatically alters the nature of centralized control, transferring much decision-making to dispersed man-

agement. A Harvard Business School Press publication, graphically titled *Blown to Bits*, summarized the dramatic changes compelling corporate adjustment as follows:

> Digital networks make it possible to blow up the link between rich information and its physical carrier. The Internet stands in the same relation to television, as did television to books, and books to stained glass windows. The traditional link between the economics of information and the economics of things – is broken.[235]

This development in information space is extremely pro-competitive. The Internet unleashed competitive processes and innovation that exhibited the fundamental characteristics of audacious or atomistic competition.[236]

> Experimentation by users and competition among providers, across the range of segments that constitute the Internet, generated a surge of self-sustaining innovation… This network openness and the user-driven innovation it encouraged were a distinct departure from the prevailing supply-centric, provider-dominated, traditional network model. In that traditional model a dominant carrier or broadcaster offered a limited menu of service options to subscribers; experimentation was limited to small-scale trials with the options circumscribed and dictated by the supplier.
>
> Diversity of experimentation and competition on an increasingly open network were key, since nobody could foresee what would eventually emerge as successful applications. Openness allowed many paths to be explored, not only those which phone companies, the infrastructure's monopoly owners, would have favored. Absent policy-mandated openness, the Regional Bell Operating Companies (RBOCs) and monopoly franchise [cable television] networks would certainly have explored only the paths of direct benefit to them. It is doubtful that without such policy-mandated openness the Internet Revolution would have occurred.[237]

The Role of Public Policy in Creating Open Communications Platforms

There must be no mistake about the critical role that government policy played in the process of creating this new information environment. The flexibility and fluidity we have achieved in the information age has resulted in part from severing the link between the physical layer and the code and content layers. Although an obligation to provide nondiscriminatory access to communications networks has been a long-standing principle in the United States, the most recent execution of this policy had a

particularly powerful effect because it interacted with the spreading technology and architectural principle of the Internet (end-to-end) to create a uniquely dynamic environment. In a sense we find that the deeper the principle of openness is embedded in the communications system, the greater the ability of information production to stimulate innovation.

> The government's activism imposed a principle analogous to [end-to-end] design on the telephone network. Indeed, though it masquerades under a different name (open access), this design principle is part and parcel of recent efforts by Congress and the FCC to deregulate telephony... By requiring the natural monopoly component at the basic network level to be open to competitors at higher-levels, intelligent regulation can minimize the economic disruption caused by that natural monopoly and permit as much competition as industry will allow.[238]

Thus, a determined commitment to open communications networks was critical to the widespread development of the Internet. It is clear that the communications platform of the Internet was founded and thrived on the principle that facility owners in the physical layer could not discriminate against innovators or speakers. This was accomplished through government policy.

> The FCC allowed specialized providers of data services, including Internet Service Providers (ISPs) and their customers, access to raw network transmission capacity through leased lines on cost-effective terms. Regulatory policy forced open access to networks whose monopoly owners tried to keep them closed. The resulting competition allowed the FCC to free the service providers from detailed regulation that would have kept them from using the full capabilities of the network in the most open and free manner.
>
> Thanks to the enduring FCC policy of openness and competition, specialized networks and their users could unleash the Internet revolution. Open network policy assured the widest possible user choice and the greatest opportunities for users to interact with the myriad of emerging new entrants in all segments of the network. To be sure, the FCC strategy emerged haltingly but its direction never changed. Indeed, the Commission consistently backed cost-based access to the network (initially through leased lines and later through unbundled network elements). The de facto result of this policy, and of more conscious choices symbolized by the *Computer III* policies, was to prevent phone company monopolies from dictating the architecture of new data-related services. The Commission

> thus supported competition and innovation, time and again, by unfailingly keeping the critical network infrastructure open to new architectures and available to new services on cost-effective terms. The instruments of FCC policy were to make leased lines (and, lately, network elements) available on cost-oriented terms and to forebear from regulating Internet and other data services. This steady policy set in motion, and sustained, a virtuous cycle of cumulative innovation, new services, infrastructure development, increasing network usage with evident economic benefits for the U.S. economy.[239]

Lessig is blunt about the government's role, claiming, "[p]hone companies… did not play… games, because they were not allowed to. And they were not allowed to because regulators stopped them."[240]

> We certainly do not claim that a communications network would have been impossible without the government's intervention. We have had telecommunication networks for over a hundred years, and as computers matured, we no doubt would have had more sophisticated networks. The design of those networks would not have been the design of the Internet, however. The design would have been more like the French analogue to the Internet – Minitel. But Minitel is not the Internet. It is a centralized, controlled version of the Internet, and it is notably less successful.[241]

As in traditional areas of economics, procompetitive economics of open communications platforms reinforces the fundamental principle of civic discourse. There is close symmetry with the end-to-end principle and the institutional principles of our democracy. [242] These are ideal for populist forms of democracy.

> Relative anonymity, decentralized distribution, multiple points of access, no necessary tie to geography, no simple system to identify content, tools of encryption – all these features and consequences of the Internet protocol make it difficult to control speech in cyberspace. The architecture of cyberspace is the real protector of speech there; it is the real "First Amendment in cyberspace," and this First Amendment is no local ordinance…
>
> The architecture of the Internet, as it is right now, is perhaps the most important model of free speech since the founding. This model has implications far beyond e-mail and web pages.[243]

The observation extends to communications platforms with particular force. Lessig points out that at the time of the framing of the Constitution the press had a very atomistic trait.

> The "press" in 1791 was not the *New York Times* or the *Wall Street Journal*. It did not comprise large organization of private interests, with millions of readers associated with each organization. Rather, the press then was much like the Internet: anyone (within reason) could become a publisher – and in fact an extraordinary number did. When the Constitution speaks of the rights of the "press," the architecture it has in mind is the architecture of the Internet.[244]

Claims That Monopoly Is Preferable Do Not Stand Close Scrutiny

Allowing facility owners to close their networks undermines both the dynamic economic environment and the potential for enriched civic discourse, but that is what some have advocated. As the FCC notes in an ongoing proceeding about market concentration, "[s]ome economists, most notably Schumpeter, suggest that monopoly can be more conducive to innovation than competition, since monopolists can more readily capture the benefits of innovation."[245]

Some argue that facility owners, exercising their property rights to exclude and dictate uses of the network, will produce a more dynamic environment than an open communications platform.[246] The hope is that a very small number of owners engaging in the rent-seeking behavior of innovators will stimulate more investment, and their enlightened self-interest will probably convince them to open their network.[247] Claiming that a massive build-out of the physical infrastructure is needed, the owners of facilities insist that the cost savings on communications and information inputs should be transferred to the owners of physical capital. Under this line of argument, the generation of sufficient rents to motivate the build-out of the network must be achieved by either excluding competitive content from the networks or by charging content producers such a high price (for transport or for equity stakes) that the facility owners capture the bulk of the surplus.

The claim that we are better off with a small number of competitors is conceptually linked to long-standing claims that "firms need protection from competition before they will bear the risks and costs of invention and innovation, and a monopoly affords an ideal platform for shooting at the rapidly and jerkily moving targets of new technology."[248] Lately this argument is extended to claims that, in the new economy, "winner take all"

industries exhibit competition for the entire market, not competition within the market. As long as monopolists are booted out on a regular basis, or believe they can be, monopoly is in the public interest.[249]

The "winner take all" argument faces considerable dispute and was firmly rejected in the Microsoft case.[250] The theory supporting Schumpterian rents breaks down when applied in modern circumstances.

> Viewed in their entirety, the theory and evidence [in support of monopoly power] suggest a threshold concept of the most favorable climate for rapid technological change. A bit of monopoly power in the form of structural concentration is conducive to innovation, particularly *when advances in the relevant knowledge base occur slowly*. But very high concentration has a positive effect only in rare cases, and more often it is apt to retard progress by restricting the number of independent courses of initiative and by dampening firms' incentive to gain market position through accelerated R&D. Likewise, given the important role that technically *audacious newcomers* play in making radical innovations, it seems important that barriers to new entry be kept at modest level. Schumpeter was right in asserting that perfect competition has no title to being established as the model of dynamic efficiency. But his less cautious followers were wrong when they implied that powerful monopolies and tightly knit cartels had any strong claim to that title. What is needed for rapid technical progress is a subtle blend of competition and monopoly, with more emphasis in general on the former than the latter, and with the role of monopolistic elements diminishing when rich technological opportunities exist.[251]

The Internet seems to fit the mode of audacious or atomistic competition much better than the monopoly rent model, as does the development and progress of its most important device, the PC.[252] The monopoly rent argument appears to be least applicable to industries in which rapid and raucous technological progress takes place within the framework of an open platform, as the Internet did through its first two decades.

> One policy implication for antitrust is the need to preserve a larger number of firms in industries where the best innovation strategy is unpredictable…Another implication is… that "technical progress thrives best in an environment that nurtures a diversity of sizes and, perhaps especially, that keeps barriers to entry by technologically innovative newcomers low…A third implication is the awareness that dominant firms may have an incentive to act so as to deter innovative activities that threaten the dominant position.[253]

The theoretical literature provides ample basis for concern that the physical layer of communications platforms will not perform well without a check on inherent market power. In this layer, barriers to entry are substantial and go far beyond simple entrepreneurial skill that needs to be rewarded. At the structural level, new entry into these physical markets is difficult. Rents in markets with barriers to entry other than entrepreneurial skill are larger than they need to be to attract investment and do not dissipate so quickly.[254] The dominant players in the physical layer can readily distort the architecture of the platform to protect their market power.[255] They use a variety of tools to create economic and entry barriers at other layers, [256] such as exclusive deals,[257] retaliation,[258] manipulation of standards,[259] and strategies that freeze customers.[260] Firms can use their access to customers to reinforce their market dominance[261] by creating ever-larger bundles of complementary assets.[262] As the elasticity of demand declines over the course of the product life cycle, market power lodged in the physical layer results in excessive bundling[263] and overpricing of products under a variety of market conditions.[264] Control over the product cycle can impose immense costs by creating incompatibilities,[265] forcing upgrades,[266] and spreading the cost increases across layers of the platform[267] to extract consumer surplus.[268] In information markets, creating incompatibilities or blocking the flow of information undermines consumer value.[269]

There is ample evidence that these anticompetitive behaviors may be attractive to a new economy monopolist for static and dynamic reasons.[270] Conquering neighboring markets, erecting cross-platform incompatibilities, raising rivals' costs, or preventing rivals from achieving economies of scale can preserve market power in the core product. Profits may be increased in the core product by enhanced abilities to price discriminate. By driving competitors out of neighboring markets, new monopolies may be created or market power across generations of a product may be enhanced and preserved by diminishing the pool of potential competitors.

The sustained monopoly power of the cable industry and its repeated examples of anticompetitive behavior undermine claims that the industry is characterized by Schumpterian monopolists who reap transitional rents from innovation.

CHAPTER 5

The threat to open communications platforms

Cable's Strategy to Close the Communications Platform

Soon after the Internet left government laboratories and college campuses and spread widely to the commercial world, it encountered numerous new problems.[271] Problems on the consumer side (hackers and viruses, spammers and "bandwidth hogs"), in the network (congestion and complexity), and on the producer side (sticky features, and closed, proprietary systems) now challenge the fundamental, open architecture of the Internet.

In a world of collegial collaboration and coordination, the ends of the network could be relied upon to support the seamless flow and inter-operability of data. The end-to-end principle kept the network simple and cheap so that applications developers at the end points could experiment and innovate with confidence that the network would not get in the way.[272] A world of commercial competition, spiraling technical complexity, and troubling human frailties give network operators the impetus to begin fencing in the Internet,[273] as they insert choke points to monitor and control data flows. The greatest threat to openness and dynamic innovation on the Internet has not come from technical glitches or even from nefarious human actions, however.[274] Rather, it has come from the very commercial interests that the Internet sought to serve.[275] The most damaging restrictions sought or imposed by the new dominant commercial network owners have little to do with the technical problems of managing a complex, increasingly congested network. They are not motivated by efforts to solve the social problem of creating trust in cyberspace[276] or to fight new forms of cyber-crime or old forms of crime made more challenging by their migration to cyberspace. Business models intended to preserve market power in physical space and extend it into cyberspace drive the restrictions they seek to impose.[277]

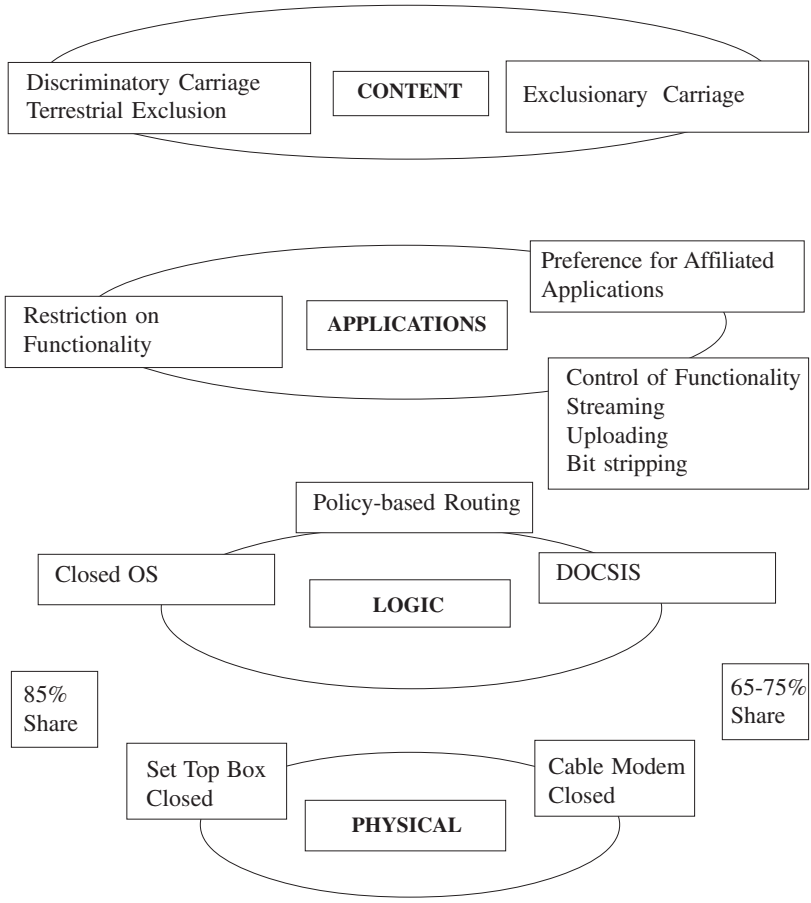
While eschewing competition in their core market, cable operators moved into the communications and Internet service markets, bringing along their anticompetitive business model that relies on closed and restricted access to the consumer (see **Figure 5.1**). Through contracts and court cases, they have fought a five-year battle to keep their advanced telecommunication networks closed and to operate them on a proprietary basis. They sought to extend their anticompetitive business model from the video market into the new product space by claiming that high-speed Internet access was just a cable service.[278] This would have the effect of excusing the industry from the obligation that falls on all telecommunications service providers to operate their networks in an open and nondiscriminatory manner.

Although it was obvious to several circuit courts that high-speed Internet service involves telecommunications,[279] it took the FCC more than five years to reach that conclusion, and when it finally did, it came in the context of a series of orders that would allow advanced telecommunications networks to be run on a closed proprietary basis – in essence repealing Title II of the Communications Act for the next generation of telecommunications services.[280] Unfortunately, through this stunning reversal of direction, the FCC has yet to extend the public policies that produced open communications facilities of the first generation of Internet content to the most important facilities for the next generation of Internet services.[281] Policy makers seem to have forgotten the important role that aggressive steps to open the communications network played in creating the dynamic narrowband Internet.[282] Cable operators know it is more profitable to exercise market power in a closed network.

A firestorm of criticism and debate has accompanied the cable industry's efforts to dominate advanced telecommunications markets. The Federal Trade Commission required AOL Time Warner to make commercial access available to a small number of Internet service providers, but the FCC chairman and other commissioners made it clear that this condition of the merger approval was not "open access" by any stretch of the imagination.[283]

To deflect public criticism and get past regulatory reviews of mergers, AT&T and other cable operators insisted that they would provide nondiscriminatory access in a voluntary manner.[284] However, they dragged their feet for three years and captured the most lucrative customers under exclusive arrangements. With another merger on the table, AT&T and Comcast have finally agreed to let another ISP sell high-speed Internet service on their system, but it is quite apparent that the terms and conditions that they offer for access are completely antithetical to a true open communications system. The commercial access that AT&T and Comcast

FIGURE 5.1 Anti-consumer/anticompetitive elements of the cable industry communications platform



are offering is nowhere near what is needed to preserve the competitive, consumer-friendly, innovation-rich environment we have come to know and love on the Internet.

Regulatory filings by the cable industry leave no doubt that they are seeking to fundamentally change the innovative dynamic of the Internet, putting all the economic power in the hands of the network owners. The National Cable [Television] and Telecommunications Association cites experts who felt that "a highly competitive ISP market [is] not very impor-

tant" and that a reduction of consumer choice at the ISP layer is not a concern as long as there is adequate competition among companies providing physical transport to the Internet."[285] The cable industry trade association opines that "the 'plain vanilla' ISPs offering only a straight link to the Internet with no accompanying value added in the form of proprietary content are not likely to survive in the new environment."[286] The essence of the Internet, thousands of ISPs competing for consumers, is deemed outmoded by the cable industry because "an environment preserving thousands of small ISPs may be unnecessary to ensure responsive customer service, technological advancements, and innovative content."[287]

In this closed proprietary world, the cable companies decide what is important to the consumer. As Cox argued, "[t]he openness that really matters to consumers – and what makes the Internet special and remarkable – is the ability to go anywhere, to access any information with a single click of a mouse."[288] In this old economy model of facilities-based competition, the decision of which content gets to the public is left to the "cable operator-ISP relationships that are developing in the marketplace" since "cable operators would have every incentive to offer their cable modem subscribers those unaffiliated ISPs offering unique content and value, since customers would follow the ISP they prefer to another high-speed distributor that offered that ISP."[289]

In a sense, this argument is a return to the pre-Internet logic of communications platforms, in which it is assumed that the center of value creation resides in the physical layer.

> ISPs cannot compete on the core value proposition in a broadband world unless they are offering a facilities-based service that enables them to compete on price and quality with a cable provider of Internet service. To the extent that a cable provider desires to find new marketing channels, it may well strike arrangements with ISPs to assist on that score, but the ISPs are not competing on the core product. At best, the ISPs are able to offer differentiated content on the portal screen, added security features, more reliable privacy policies and the like.[290]

The contrast to the demonstrated impact of freeing the code and content layers to enable innovation and add value, while running on top of an open physical layer, could not be more dramatic.

> …[O]ne should not think of ISPs as providing a fixed and immutable set of services. Right now ISPs typically provide customer support, as well as an IP address that channels the customer's data. Competition

among ISPs focuses on access speed, as well as some competition for content.

The benefits from this competition in the history of the Internet so far should not be underestimated. The ISP market is extraordinarily competitive. This competition has driven providers to expand capacity and lower prices. It has also driven providers to give highly effective customer support. This extraordinary build-out of capacity has not been motivated by a promise of monopoly protection. The competitive market has provided a sufficient incentive, and the market has responded.[291]

The effort of the cable industry to convince policy makers that vigorous ISP competition is not necessary rests on an interestingly selective citation from a General Accounting Office report. The cable industry chose to ignore a strong view reported by the GAO that ISP competition is critically important to the development of the Internet.[292] If anything, the GAO gave much more prominence to the competing view. In fact, the GAO gives a good summary of how the policy of open access helped to create the vigorous competition on the Internet.

Manipulation of Access

Given the history of the cable industry, it should have come as no surprise that its efforts to extend the business model to the high-speed Internet would cause a stir. What may be somewhat surprising are the entities who stepped forward to resist. Even facility owners with large market shares in other communications markets do not hesitate to criticize the anticompetitive effects of other facility owners who gain a large market share. As experts for the local telephone companies argued, "a vertically integrated broadband provider such as AT&T will have a strong incentive and opportunity to discriminate against unaffiliated broadband content providers."[293] They understand all too well that closed communications facilities provide influence and an incentive to discriminate against both alternative transmission media and alternative content suppliers. The behavioral analysis in this section relies on:

- filings presented by AT&T in Canada[294]before it became the nation's largest cable company and in the U.S. in situations where it does not possess an advantage of owning wires,[295]

- recommendations made by AOL[296] to local and federal governments before it decided to become the nation's second-largest cable company,

- analyses prepared by experts for local[297] and long distance[298] telephone companies complaining about various forms of closure of networks to which they need interconnection,
- Wall Street analyses of the business models of dominant, vertically integrated cable firms,[299] and
- observations offered by independent ISPs[300] and small cable operators[301] struggling with the dominant wire companies.

Essential Communications Functions

Whether we call them essential facilities,[302] choke points[303] or anchor points,[304] the key point of power is controlling access facilities.[305] That is exactly what AOL said about AT&T, when AOL was a nonaffiliated ISP.

> The key, after all, is the ability to use "first mile" pipeline control to deny consumers direct access to, and thus a real choice among, the content and services offered by independent providers. Open access would provide a targeted and narrow fix to this problem. AT&T simply would not be allowed to control consumer's ability to choose service providers other than those AT&T itself has chosen for them. This would create an environment where independent, competitive service providers will have access to the broadband "first mile" controlled by AT&T – the pipe into consumers' homes – in order to provide a full, expanding range of voice, video, and data services requested by consumers. The ability to stifle Internet-based video competition and to restrict access to providers of broadband content, commerce and other new applications thus would be directly diminished.[306]

Experts for the local telephone companies, in opposing the merger of AT&T and MediaOne, made exactly the same point. They argued that "the relevant geographic market is local because one can purchase broadband Internet access only from a local residence"[307] and that "a dominant market share is not a necessary condition for discrimination to be effective."[308]

> [A] hypothetical monopoly supplier of broadband Internet access in a given geographic market could exercise market power without controlling the provision of broadband access in neighboring geographic markets.[309]

The essential communications function was the paramount concern for AT&T in determining interconnection policy for cable networks in

Canada.[310] AT&T attacked the claim made by cable companies that their lack of market share indicated that they lacked market power. AT&T argued that small market share does not preclude the existence of market power because of the essential function of the access input to the production of service.[311] AT&T argued that open access "obligations are not dependent on whether the provider is dominant. Rather they are necessary in order to prevent the abuse of market power that can be exercised over bottleneck functions of the broadband access service."[312]

AT&T maintained that the presence of a number of vertically integrated facilities owners does not solve the fundamental problem of access that nonintegrated content providers face. AT&T pointed out that because independent content providers will always outnumber integrated providers, competition could be undermined by vertical integration. To avoid this outcome, even when there are multiple facilities owners they must be required to provide nondiscriminatory access.[313]

In early 2002, notwithstanding the fact that AT&T owned 2 million lines in Texas that it refused to open, it was still insisting that keeping communications networks open is critical to promoting competition.

> In addition to allowing a variety of technologies to develop and be deployed across Texas, the state also should continue to encourage the development of competition among providers. The current provisions… authorize the Commission to ensure that such competition develops by assuring that competitors have access to essential facilities controlled by incumbent local companies, and that the competition that such access allows to develop has and will continue to inure to the benefits of Texas consumers. For example, competing providers of DSL help ensure that consumers have the option of choosing the provider with the best customer service – an issue that has been identified as one of the potential impediments to demand for broadband service today. In the absence of such competitive pressure, a single service provider does not have as much incentive to continue improving their customer service.[314]

It is ironic to note the dispute over AOL's exclusionary practices in instant messaging. The fundamental importance of communications functions was argued by Excite@Home, AT&T's ISP that provided broadband service on a closed proprietary basis, in demanding access to AOL's customers.

> A bedrock principle of our approach to communications has been that users of critical communications functions should be able to communicate

> with all others, even those who use different service providers…It would have been a disaster for the Internet if e-mail had been held captive to a proprietary technology so that users of one e-mail system could not communicate with e-mail users of a different system or if one company could dictate the terms by which all other companies could use e-mail. Instant messaging must be subject to the same principle.[315]

AOL also believed that the presence of alternative facilities did not eliminate the need for open access; it argued that

> [an open access requirement] would allow ISPs to choose between the first-mile facilities of telephone and cable operators based on their relative price, performance, and features. This would spur the loop-to-loop, facilities-based competition contemplated by the Telecommunications Act of 1996, thereby offering consumers more widespread availability of Internet access; increasing affordability due to downward pressures on prices; and a menu of service options varying in price, speed, reliability, content and customer service.[316]

Discrimination

It is hard to imagine that private entities possessing this market power would refrain from using it to their advantage, and in fact, proprietary control of the physical facilities has not led to open networks. There was never any reason to expect otherwise, as AT&T foresaw. In Canada, AT&T tied the domination of access over the last mile to proprietary standards.[317] As concern over this advantage has grown, analysts have identified two distinct types of discrimination. Vertically integrated broadband providers may practice content discrimination or conduit discrimination. [318]

Content discrimination has been the focal point of concern for high-speed Internet services. Content discrimination involves an integrated provider "insulating its own affiliated content from competition by blocking or degrading the quality of outside content."[319]

> Content discrimination… would benefit the cable provider by enhancing the position of its affiliated content providers in the national market by denying unaffiliated content providers critical operating scale and insulating affiliated content providers from competition. Content discrimination would thus allow the vertically integrated content provider to earn extra revenues from its own portal customers who would have fewer opportunities to interact with competing outside content.[320]

AT&T identifies four forms of anticompetitive practices – bundling, price squeeze, service quality discrimination, and first-mover advantage. It describes the classic vertical leveraging tools of price squeezes and quality discrimination as content discrimination.[321]

Even after AT&T became the nation's largest cable TV company, it criticized local telephone companies for abusing their monopoly control over their telephone wires. AT&T complained about bottleneck facilities, vertical integration, anticompetitive bundling of services, and distortion of competition when it opposed the entry of SBC into the long-distance market in Texas. These are the very same complaints AOL made about AT&T at about the same time.[322] AOL expressed related concerns about the manipulation of technology and interfaces:

> … allowing a single entity to abuse its control over the development of technical solutions – particularly when it may have interests inconsistent with the successful implementation of open access – could indeed undermine the City's policy. It is therefore vital to ensure that unaffiliated ISPs can gain access comparable to that the cable operators choose to afford to its cable-affiliated ISP.[323]

Long-distance companies and competitive local exchange carriers have similar concerns about merging local exchange carriers. As their experts argued in the proposed SBC/Ameritech and Bell Atlantic/GTE mergers:

> These mergers will have competition in local exchange, inter-exchange, and combined-service markets due to footprint effects. The economic logic of competitive spillovers implies that the increase in [the incumbent local exchange carrier (ILEC)] footprints resulting from these proposed mergers would increase the ILECs' incentive to disadvantage rivals by degrading access services they need to compete, thereby harming competition and consumers.[324]

The experts for the local telephone companies identified a series of tactics that a vertically integrated broadband provider could use to put competing, unaffiliated content providers at a disadvantage.

> First, it can give preference to an affiliated content provider by caching its content locally… Such preferential treatment ensures that affiliated content can be delivered at faster speed than unaffiliated content. Second, a vertically integrated broadband provider can limit the duration of

> streaming videos of broadcast quality to such an extent that they can never compete against cable program-ming…Third, a vertically integrated firm such as AT&T or AOL-Time Warner could impose proprietary standards that would render unaffiliated content useless…Once the AT&T standard has been established, AT&T will be able to exercise market power over customers and those companies trying to reach its customers.[325]

Wall Street analysts point out that the key to controlling the supply side is controlling essential functions through proprietary standards.[326] Independent ISPs point out that cable operators like AOL use control over functionalities to control the services available on the network.[327] Cable operators have continued to insist on quality of service restrictions by unaffiliated ISPs, which places the ISPs at a competitive disadvantage.[328] Cable operators must approve new functionalities whether or not they place any demands on the network.[329] AT&T's control of the architecture is just as explicit. It will pick and choose which service providers get the fastest speeds. The favored service providers are those affiliated with AT&T.[330]

Conduit discrimination has received less attention in the high-speed Internet area. Nevertheless, there are such examples in this Internet market. In implementing conduit discrimination, the vertically integrated company would refuse to distribute its affiliated content over competing transmission media.[331] In doing so, it seeks to drive consumers to its transmission media and to weaken its rival. This is profitable as long as the revenue gained by attracting new subscribers exceeds the revenue lost by not making the content available to the rival. AT&T has been accused of conduit discrimination in the high-speed Internet market.

> CTN [CT Communications Network Inc.], a registered and franchised cable operator, has been unable to purchase the affiliated HITS transport service from AT&T Broadband, the nation's largest cable operators, despite repeated attempts to do so…. Based on its own experience and conversations with other companies who have experienced similar problems, CTCN believes that AT&T is refusing to sell HITS to any company using DSL technology to deliver video services over existing phone lines because such companies would directly compete with AT&T entry into the local telephone market using both its owns system and the cable plant of unaffiliated cable operators. AT&T simply does not want any terrestrial based competition by other broadband networks capable of providing bundled video, voice and data services.[332]

The AOL/Time Warner merger raised similar concerns about conduit discrimination. The significance of the AOL switch to cable-based broadband cannot be underestimated in the damage that it does to the hoped-for competition between cable modems and DSL. Although the telephone companies are reluctant to admit that their technology will have trouble competing, their experts have identified the advantages that cable enjoys.[333] Fearing that once AOL became a cable owner it would abandon the DSL distribution channel, the FTC required AOL to continue to makes its service available over the DSL conduit.

Bundling and Customer Lock-In

Bundling early in the adoption cycle to lock in customers is the focal point of the leveraging strategy followed by facility owners. AT&T described the problem with the bundling technique that local telephone companies (local exchange carriers or LECs) might use to gain an advantage.[334] AOL described the threat of vertically integrated cable companies in the United States in these terms:

> At every link in the broadband distribution chain for video/voice/data services, AT&T would possess the ability and the incentive to limit consumer choice. Whether through its exclusive control of the [EPG define] or browser that serves as consumers' interface; its integration of favored Microsoft operating systems in set-top boxes; its control of the cable broadband pipe itself; its exclusive dealing with its own proprietary cable ISPs; or the required use of its "backbone" long distance facilities; AT&T could block or choke off consumers' ability to choose among the access, Internet services, and integrated services of their choice. Eliminating customer choice will diminish innovation, increase prices, and chill consumer demand; thereby slowing the rollout of integrated service.[335]

Once AT&T became the largest vertically integrated cable company selling broadband access in the United States, it set out to prevent potential competitors from offering bundles of services. Bundles could be broken up either by not allowing Internet service providers to have access to video customers, or by preventing companies with the ability to deliver telephony from having access to high-speed content.

AOL argued that requiring open access early in the process of market development would establish a much stronger structure for a pro-consumer, pro-competitive market. Early intervention prevents the architecture of the market from blocking openness and avoids the difficult task of having

to reconstruct an open market at a later time. AOL did not hesitate to point out the powerful anticompetitive effect that integrating video services in the communications bundle could have. AOL argued that, as a result of a vertical merger,

> … AT&T would take an enormous next step toward its ability to deny consumers a choice among competing providers of integrated voice/video/data offerings – a communications marketplace that integrates, and transcends, an array of communications services and markets previously viewed as distinct.[336]

Wall Street sees the first-mover advantage both in the general terms of the processes that affect network industries and in the specific advantage that cable broadband services have in capturing the most attractive early adopting consumers.[337] First-mover advantages have their greatest value when consumers have difficulty switching from or substituting something else for the dominant product. Several characteristics of broadband Internet access are conducive to company's gaining the first-mover advantage, or "lock-in."

The local telephone company experts outlined a series of concerns about lock in.[338] First, high-speed access is a unique product. The Department of Justice determined that the broadband Internet market is a separate and distinct market from the narrowband Internet market.[339] Once this obvious economic fact is accepted, the severe concentration in the broadband market – resulting in a high degree of market power – and the blatantly anticompetitive effect of the exclusionary tactics of the dominant broadband firms become apparent, even to AT&T.[340]

The local telephone company experts devote a great deal of attention to demonstrating that the broadband market is a distinct market.[341] There is no doubt that "high-speed seems to be a distinctive product, making it a credible wedge for cable to sell a broader bundle."[342] For the Wall Street analysts, bundling is the central marketing strategy for broadband.[343]

Second, there are significant switching costs that will hinder competition. The equipment (modems) and other front-end costs are still substantial and unique to each technology. Thus, switching costs remain a substantial barrier to competition. A head start combined with significant switching costs raises the fear among the independent ISPs that consumers will be locked in. In Canada, AT&T argued that the presence of switching costs could impede the ability of consumers to change technologies, thereby impeding competition.

> [T]he cost of switching suppliers is another important factor that is used to assess demand conditions in the relevant market. In the case of the broadband access market, the cost of switching suppliers could be significant, particularly if there is a need to adopt different technical interfaces or to purchase new equipment for the home or office. Given the fact that many of the technologies involved in the provision of broadband access services are still in the early stages of development, it is unlikely that we will see customer switching seamlessly from one service provider to another in the near-term.[344]

The emerging model for closed communications platforms is one in which the facility owner with a dominant technology that is a critical input for service delivery can use control of transmission facilities to dominate content services. With proprietary control over a network that lacks adequate alternatives, facility owners can lock in consumers and squeeze competitors out of the broader market. Lock-in occurs because the high-speed access is a distinct market for a product with significant switching costs.

CHAPTER 6

Cable market power in advanced telecommunications markets

The High-Speed Internet Access Market is Highly Concentrated

Local Markets

A lack of competition in the high-speed Internet access market has enabled cable companies to exercise market power. The broadband Internet access market is dominated by a very small number of facility owners who have market power and incentive to discriminate against independent content providers. The recent report by the National Research Council proposed an interesting typology of broadband markets from the point of view of facility competition.

Type 0 – no terrestrial providers of broadband.
Type 1 – one terrestrial facility-based provider in the area (e.g., cable but not DSL or vice versa).
Type 2 – two terrestrial facilities-based providers.
Type 3 – one or more facilities-based providers that install new infrastructure to compete with incumbents.[345]

Their approach to categorizing these markets reminds us that there are likely to be "no-opolies," situations in which no full-service broadband facility is available. It also drives home the point that terrestrial, wire-based services (telephone wire-line or cable modem service) are likely to dominate.

> At least in more densely populated, more affluent areas, facilities-based competition appears to be possible. That is not to say that sustaining facilities-based competition will be easy…

> While there boundaries are difficult to forecast and will likely change over time, it is reasonable to anticipate areas where there is a single terrestrial provider.[346]

> It is a yet-unanswered but critical empirical question whether broadband local access will turn out to be a natural monopoly (as telephony was assumed to be for many years) in some or all markets. If so, it may continue to be dominated by the incumbent telephone companies and cable system operators, limiting facilities-based competition to at best two players. The fact that facilities-based competition has proved difficult to establish in the voice telephony markets that were the primary focus of the 1996 act, especially for residential service, is not encouraging, but there are differences between entry into a mature, saturated market and a new, evolving one.[347]

Using the Department of Justice merger guidelines, general economics literature, and the National Academy of Science typology, we arrive at the following categories to describe high-speed Internet markets.

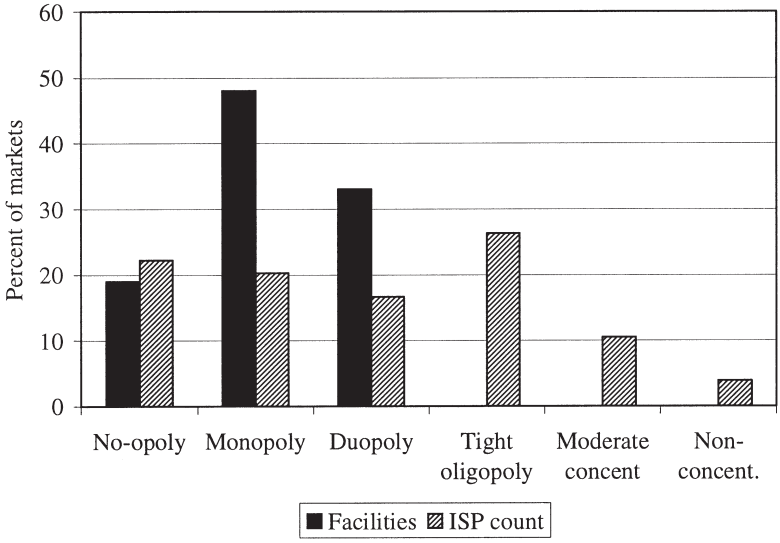
"No-opoly" – no full-service provider available
Monopoly – one dominant firm
Duopoly – two relatively equal-sized firms that dominate the market
Tight oligopoly – three to five large firms
Moderately concentrated – six to nine firms
Unconcentrated – 10 or more firms

The FCC publishes data on the availability of high-speed Internet services from ISPs[348] by zip code, which shows that product space is highly concentrated at best (see **Figure 6.1**).

A recent J.P. Morgan analysis of the availability of facilities reached a similar conclusion.[349] Both show that about one-fifth of the nation does not have high-speed service. The FCC's ISP data show that another one-fifth of zip codes are monopolies, slightly less than one-fifth are duopolies and a quarter are tight oligopolies. Only 10% of zip codes are moderately concentrated and 4.0% are unconcentrated. J. P. Morgan estimates that in addition to the one-fifth of the country that has no supplier, almost one-half of the country is subject to a facility monopoly. The final one-third has a facility duopoly.

The concentration is even higher when product market segments are considered. Business and residential markets are segmented, and concentration is higher within each segment. Cable dominates the residential

FIGURE 6.1 Market structure of high-speed internet access service



Sources: Federal Communications Commission, 2002b, Table 9; Bazinet, 2001, Figure 36.

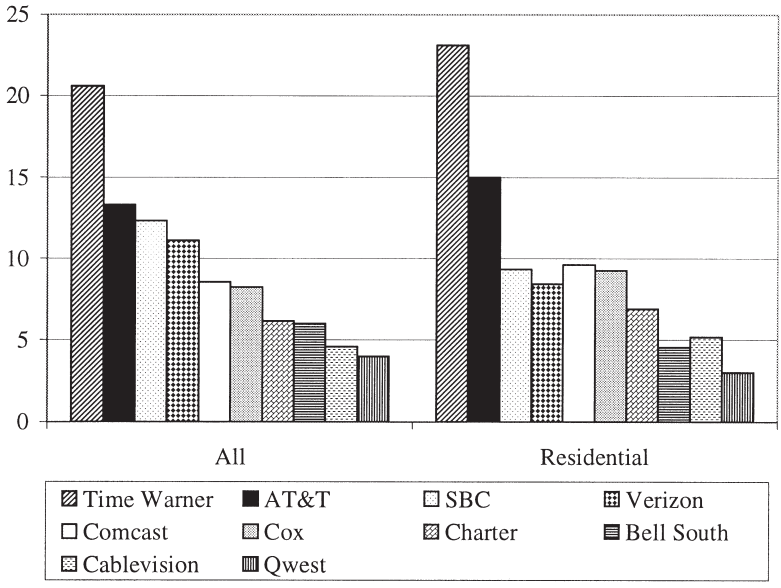
high-speed Internet market, with a 65% market share for all "broadband" services. However, it has a 75% market share for the advanced services residential market. DSL, the telephone industry's high-speed offering, dominates the nonresidential market with an 89% market share.

National Markets

National markets for high-speed Internet access exist in the same sense that national content markets exist for video. Content developers would try to sell to the public through the cable modem operators. Because cable operators are vertically integrated as Internet service providers and exercise proprietary control over the physical layer, they have an interest in controlling which content gets to the public. There is also a national market in set-top boxes and cable modems. Large operators can influence the standards and functionalities that are included in the set-top box.

The national market for high-speed Internet is moderately concentrated by the Department of Justice HHI standard, but the four-firm concentration ratio is closer to the thresholds for a tight oligopoly. The largest 10 high-speed Internet service providers are all facility owners (see **Figure 6.2**). The two largest cable operators are the largest high-speed Internet

FIGURE 6.2 National market shares for high-speed Internet service



Source: Comcast, 2002; Greenspan, 2002.

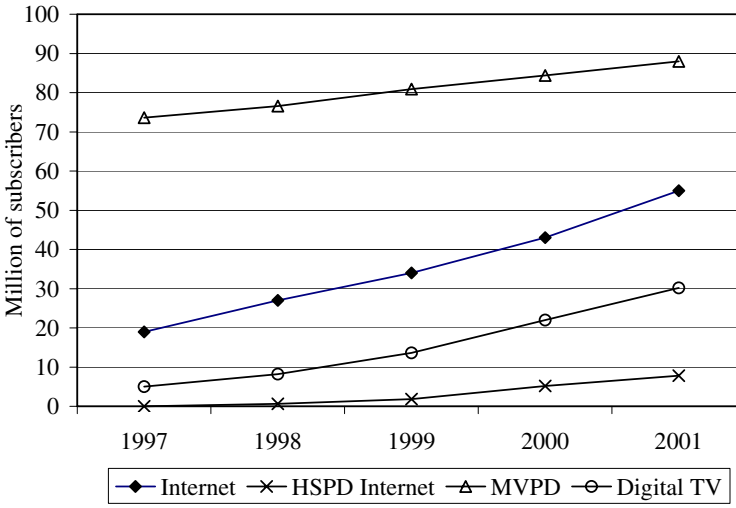
access service providers. This is particularly true for the residential market, where its appears that AOL/Time Warner is about three times the size of its nearest telephone company rivals (SBC and Verizon), and AT&T is almost twice as large.

Strategic Pricing of High-Speed Internet Access

Cable companies have strategically priced their digital services and have achieved a much higher market penetration of digital TV than high-speed Internet has. The cable companies have migrated two to three times as many customers from analog to digital in the video market than they have in the Internet market. **Figure 6.3** presents the whole digital market (all satellite and cable) and the entire Internet market (narrowband and high-speed). The residential Internet market has reached more than 50 million, but high-speed Internet is around 10 million. As a result, the Internet and the MVPD markets have been converging in total size, but the digital services within these markets have begun to diverge.

Putting the penetration of these four products on one graph under-

FIGURE 6.3 MVPD, cable TV, Internet and high-speed Internet penetration



Source: Bazinet, 2001, Figure 26; Federal Communications Commission Federal Communications Commission, 1997, para 36; 2001b, para 66; 2002a, paras 38, 58; 2002c, Table 1. National Telecommunications and Information Administration, 2002, Figure 1-1.

scores not only the complexity of the analysis, but also the basic policy concern. High-speed Internet is clearly doing the worst. We might say that penetration is only 10%. However, because only half of all households have taken the Internet, and only 80% of all households could take high-speed, the base of the calculation could be adjusted. To be fair, perhaps we should say that the penetration is about 20%. Cable accounts for about two-thirds of the total, or a penetration of 6.5 to 13% of all households. The performance of multi-channel video program distribution (MVPD) is strikingly better. This market is more than 85 million households, or 70% larger than the residential Internet markets. With more than 30 million households taking digital TV (25 million in markets served by cable), the market penetration is between 30 and 40% (depending on which numerator and denominator are chosen). No matter how we make the comparison, digital TV is penetrating much more quickly.

Why is the digital tier doing so much better than high-speed Internet access? Any good economic analysis should start with the master variable – price. Cable has priced digital TV services much more aggressively to

stimulate penetration. Cable imposes an incremental price to migrate from narrowband to broadband that is substantially higher in both monetary and qualitative terms than the price it charges to migrate from analog cable to digital cable.

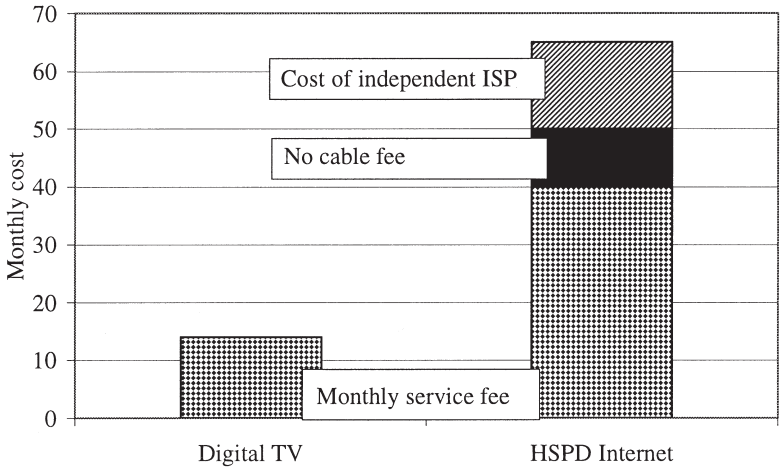
This becomes quite apparent to any consumer who tries to buy the service in the marketplace (see **Figure 6.4**). If a consumer adds a digital tier, the charge would be an additional $10-$12 (on average). If a consumer requests cable modem service, but not cable TV service, the charge will be $10 for the use of the basic cable facilities, plus an additional $40 for the cable company's chosen ISP to provide an Internet connection. For the vast majority of cable subscribers, if they want to keep their ISP, they will have to pay an additional charge. For the dominant narrowband ISP, the charge is $15. The total would be $65 for a consumer with a cable modem and no TV service. To lower the price, consumers must bear a burden – subscribe to cable or give up the ISP that they chose in the competitive world of the Internet. Even the $40 price is high compared to digital video services. The service is not priced to penetrate.

The difference is striking, and there appears to be no cost justification. Indeed, a Morgan Stanley Dean Witter analysis titled *Digital Decade* found that the incremental capital costs for digital cable were higher than those for high-speed Internet added to a cable upgrade. In their report titled *Broadband!* Bernstein/Mckinsey reached the same conclusion. The example given in the NRC report, which appears to be for a new overbuilt fiber system, suggests that the capital costs would be equal.

This pricing scheme implicitly suggests that providing basic network service costs $10 per customer per month (the incremental charge for standalone, high-speed service). It implicitly suggests that the digital upgrade costs are about $10 (the charge for the digital tier). Pure transmission should be about $20.

Other evidence suggests that the customer care, billing, and incremental facility costs for Internet service providers range from $10-$15. These costs include real services, such as customer service (billing and customer care) and customer acquisition, and deployment of their own facilities, such as points of presence, local caching, and centralized computing. AOL charges $15 (recently up from $10) to get their service as a buy-through on the cable systems from which they have been excluded. Limited-use narrowband Internet plans are available at $10 per month, which suggests this is the basic cost per customer. Indeed, AOL was a profitable, narrowband company at $20 per month for full service customers. This is exactly what Bernstein/Mckinsey concluded in *Broadband!* Cable operators report this cost is in the range of $7-$8.[350]

FIGURE 6.4 Strategy pricing of cable modem service



Source: Web site visits.

Cable operators have recently suggested that digital service costs are not much lower than that. Comcast, which prices digital services at $15, claimed that its margin is 80%.[351] Digital service also generates some advertising revenue and significant pay-per-view revenue. Thus, if total revenues per subscriber are in the range of $20-$25 per month, operating costs would be in the range of $4-$5. With identical capital costs and similar operating costs on digital video and high-speed Internet, the difference in price of $15 versus $40 is wholly unjustified. Even when Excite@Home was the ISP, Comcast was pricing access at $30, twice the level of digital with no operating costs.

The price tag that the cable operators have put on cable modem service is driven by the raw exercise of market power. Bill Gates' suggestion that this service should be priced at $30 may be too generous, if only facility costs are included. In any event, this service is dramatically overpriced. The implication is that cable operators are extracting massive monopoly rents. Tom Hazlett has characterized the situation as follows:[352]

> Cable operators possess substantial market power in subscription video markets. Moreover, they use this leverage to restrict output in broadband access. This is not profitable in a narrow financial calculus, but is rational due to strategic considerations…

The price increases of 2001 confirm the willingness of cable operators to forego sales to increase profits.[353] The financial analysis provided by Bernstein/McKinsey showed a three-year break-even and an after-tax profit rate of 23% before last year's price increase. The price increase would push that figure up to 36% and shorten the payback. The cable operators have carried the lessons of market power in the MVPD market into the high-speed Internet market. They pick up the high-value early adopters by being first and by bundling. Keeping prices high creates a high rate of profit. They get the benefit of locking in the best customers to their technology.

Strategic Manipulation of Access by Cable Companies

As noted above, incumbent cable operators also raise barriers to entry. Between 1984 and 1992, cable operators used their control over programming to prevent satellite from gaining a foothold. It took an act of Congress to free up this critical strategic input, although cable operators have been allowed to reinvent that strategy through the loophole of terrestrial transmission. Now, the strategic input is access to the telecommunications functionality of the cable systems. As with access to programming, the FCC is allowing a misinterpretation of the Communications Act to undermine competition, by allowing the cable companies to avoid an obligation to provide nondiscriminatory access to the communications network. The FCC and the cable companies offer voluntary commercial access as a substitute for nondiscriminatory interconnection and carriage that have traditionally been part of the communications industry. The commercial access that AOL, AT&T, and Comcast are offering strangles competition. The network owners

- choose a small number of ISPs who can sell a restrictive set of services;
- tell the ISPs what they can and (more important) cannot sell, particularly streaming video and end-user generated content and applications;
- control the customer relationship and the ability of nonaffiliated ISPs to differentiate themselves; and
- place independent ISPs in a price squeeze that stifles innovation on the Internet by charging a toll for access (the charge unaffiliated ISPs must pay for carriage) that is so high that few resources and markets are left for new applications or content.

Restricting interconnecting companies to specific types of services, such as Internet-access sales only, precludes a range of other intermediary services and functions provided by ISPs from getting to the public (e.g., no ITV functionality). Restriction of service to specified appliances retards competition for video services. Control of quality and functionalities and restriction of end-user applications by the network owner precludes potentially competing video services and other Internet-oriented services from developing.

Network owners seek to impose uniformity and to prevent competitors from differentiating themselves by restricting privacy policy and billing and payment practices. Network owners prevent real competition by demanding control over valuable first-screen real estate. They retain the right to approve the ISP home page and demand to have a prominent "above the fold" spot on the home page over which they retain complete control. They demand preferential bundling of services and control of cross-marketing of services. Network owners stake a claim to all customer information generated by the ISP.

Network owners establish a revenue "ceiling" on independent ISPs. They demand a huge share of both subscription (65-75%) and ancillary revenues (25% or more) that the ISP generates, but keep all of the ancillary revenue that they generate in connection with the ISP service. At the same time, they establish a high price floor under sales of Internet service to cable TV customers. This squeezes the margin on such customers and renders potential video stream competitors vulnerable to price squeezes.

Short three-year contracts come with severe conditions, such as imposing a very short-term perspective on independent ISPs by denying the ISP a contract with terms longer than three years and denying the ISPs an inextinguishable right to provide service. The ISP does not have a right to continue selling the service if the system is sold, and the right to sell service is not extended to systems that are acquired. In other words, the ISP can simply be shut down by the new cable owner or be prevented from extending its business to a neighboring system. A large nonrefundable deposit and a minimum size requirement would keep small and niche market ISPs off the network.

Under these conditions, the commercial space left for the unaffiliated and smaller ISPs (where much innovation takes place) is sparse and ever-shrinking. Hazlett and Bittlingmayer cite Excite@Home executive Milo Medin describing the terms on which cable operators would allow carriage of broadband Internet to AOL (before it owned a wire) as follows:

> I was sitting next to [AOL CEO] Steve Case in Congress during the open access debates. He was saying that all AOL wanted was to be treated like Excite@Home. If he wants to be treated like us, I'm sure he could cut a deal with [the cable networks], but they'll take their pound of flesh. We only had to give them a 75% equity stake in the company and board control. The guys aren't morons.[354]

The fate of Excite@Home speaks volumes about the nature of the commercial deals for access that are being voluntarily offered.

Placing these severe restrictions on independent ISPs is a strategy that protects the cable company's paramount interest in preserving its market power over video entertainment. These policies make it impossible for ISPs to directly compete for video service, but the strategic manipulation of access to the customer goes farther. The companies appear to be backsliding on their promise that there will be unfettered, click-through access to the Internet. The flow of rich media and video content are being restricted, unless the gatekeeper collects the full monopoly rents it expects from video. Anything that competes for that market will be squeezed at the tollgate.

PART 3

The AT&T/Comcast merger harms competition and is not in the public interest

CHAPTER 7

The merger should be rejected under both the antitrust laws and the Communications Act

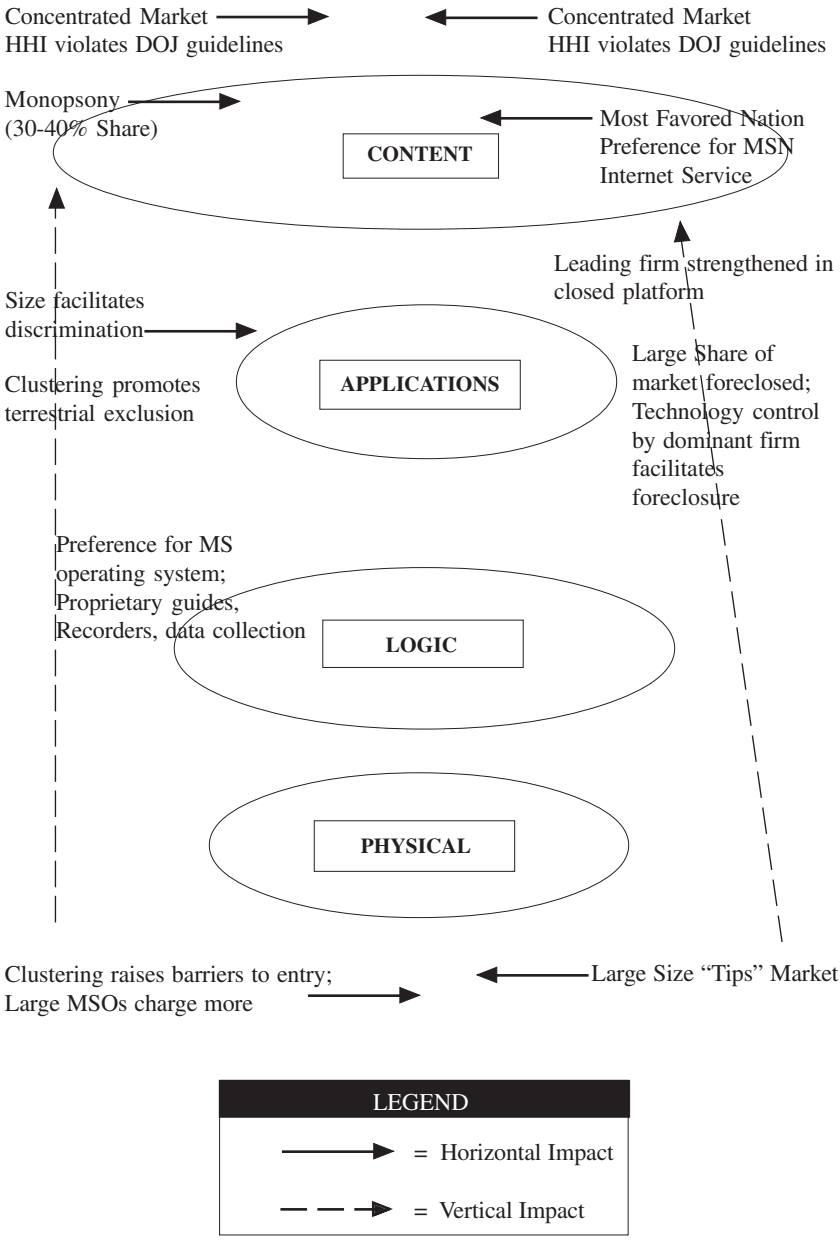
The Merger Will Have Substantial Anticompetitive Effects

The AT&T/Comcast merger poses a potent and complex problem of market power across the most important media and communications markets of the emerging information economy of the 21st century (see **Figure 7.1**). The problems involve the role of AT&T and Comcast as sellers of programming and Internet services to the public and as buyers of inputs from content producers. As a result, the merger affects not only the ability to raise prices and restrict consumer choice, but also the quality of civic discourse.

Despite the clear evidence of persistent market power, antitrust authorities have allowed a wave of mergers to reconfigure the communications industry. The explanation has been that the merger of a monopoly wire going down one street, owned by someone who has no inclination to compete against the monopoly wire going down the next street, and vice versa, does not eliminate a competitor or harm competition. The reality is that larger, more clustered systems charge more and behave in other anticompetitive ways. In short, the empirical evidence suggests that such a merger does harm competition.

There are good theoretical reasons that this would be the case. Greater economies of scale achieved by merged incumbents raise the scale of entry for new competitors, making competition less likely. Greater control of access by larger incumbents enables them to frustrate potential entrants by resisting their obtaining the necessary certifications or by withholding key inputs, such as programming. As they cluster their systems, they gain additional power in the local market (area-wide advertising, marquee programming, and so forth). Regional clustering may also make it easier to distribute certain regional programming (like local sports) terrestrially rather

FIGURE 7.1 Horizontal and vertical anti-consumer/anticompetitive impacts of the AT&T/COMCAST merger in the layers of the digital communications platform



than by satellite. This strategy enables vertically integrated cable owners to withhold the programming from competing distributors. In addition to creating larger regional and national entities, as noted above, these mergers remove the most likely competitors, especially where systems are located near each other.

We start at the root of the market power. Although the cable companies have made a great deal of the fact that they do not compete against one another, the mergers and consolidation in the industry do have an impact. Economic theory and empirical evidence recognize that size can create a barrier to entry, requiring new entrants to mount larger efforts to get into markets. This is particularly true where cable operators are located within one geographic area. Both AT&T and Comcast are vertically integrated through ownership and joint ventures into the production of content (video programming and Internet service provision) for local distribution markets. They have exhibited repeated patterns of foreclosure, discrimination, and other behavior that increases barriers to entry and have sought to preserve and enhance their market power in both markets.

AT&T/Comcast would also be one of the largest purchasers of content from both video and potentially Internet content producers. They exercise monopsony power as a buyer and have repeatedly engaged in anti-competitive and discriminatory behaviors that leverage their monopsony power in these markets.

The size of the cable owner plays an important role in the content market. Large operators gain bargaining power with content providers. Much to the consternation of the FCC, its own analyses show that the larger the cable operators become and the more regional control they gain (by pulling cable systems into clusters), the higher the monthly prices[355] and the higher the monopoly rents realized. Efficiency gains are not passed through to consumers in the form of lower prices. Clustering and increasing the size of cable operators lead to higher prices, make content discrimination easier and more profitable, and increase barriers to entry.

A large national player, with market power at the point-of-sale, has an interest in controlling the flow of unaffiliated content, even if it does not own any of its own programming. Controlling the flow of programming enables it to deny programming to potential rivals. By denying the availability of inputs to rivals, it can reduce the likelihood of entry. Exercising its monopsony power, it can raise its rate of profit, relative to actual or potential competitors, and drive programmers to seek to recover their costs from smaller program purchasers.[356]

A large operator certainly can interfere for strategic reasons with the ability of another operator to disseminate the same content. When a large

operator demands exclusivity so that potential or actual competitors cannot have access to it,[357] or explicitly demands to be given the lowest price, or implicitly pushes the content provider to recover a disproportionate share of costs from smaller operators who lack monopsony power, the operator places the competitor at a disadvantage. The size of the entity is critical to the effectiveness of the demand, but that is what monopsony is all about.

Market power at the point-of-sale is also readily transmitted back up the value chain when cable operators become vertically integrated. Reduced competition at the point-of-sale enables operators to favor their own content or hinder unaffiliated content in reaching the market, since unaffiliated programs have little or no chance of reaching consumers within the service areas that the cable operators dominate. Once they become vertically integrated, cable companies have incentives to withhold content from potential competitors in (downstream) distribution markets or to squeeze those competitors by driving up their costs.[358]

Dominant firms with a substantial market share in the national content market are an independent problem reinforced by horizontal concentration and vertical integration. Given the nature of content production, with its high first-copy costs, producers need to achieve a large audience quickly to survive. By controlling a substantial number of viewers, cable operators can make or break content production. Exercising monopsony power as buyers, they can squeeze programmers by holding down what they pay or by insisting on sharing the profits (demanding equity stakes). Once they become vertically integrated, their incentive to squeeze out rivals is reinforced. The fewer the alternatives available for specialized inputs (creative producers), the easier their task of controlling the programming market.

Although some argue, "the traditional models of discrimination do not depend on the vertically integrated firm obtaining some critical level of downstream market share,"[359] market size is important here, to ensure adequate profits are earned on the distribution of service over the favored conduit.[360] In reality, the size of the vertically integrated firm does matter since "a larger downstream market share enhances the vertically integrated firm's incentive to engage in discrimination."[361]

The AT&T/Comcast merger would create a dominant, integrated firm that would enhance its ability to discriminate. AT&T/Comcast now use cable-broadband wire as a new "crown jewel." They condition access to cable-based broadband transmission capacity on the taking of "unwanted programming." Comcast uses local and regional sports as its crown jewel. AT&T uses it monopsony power to put contiguous systems at a disadvantage

First, vertically integrated companies refuse to make programming they own available. As small cable operators point out, this exploits loopholes that the commission has created (by failing to act) in the current law. Overbuilders have faced vigorous efforts to prevent competition through exclusion from access to programming and through regulatory tactics of incumbent cable operators. Comcast has shifted some sports programming to terrestrial delivery, thereby avoiding the open access requirement of the 1992 statute. As cable operators become larger and more clustered, this strategy will become increasingly attractive to them.

The Merger Violates Reasonable FCC Rules

The 1992 Cable Act required the FCC to limit the number of subscribers that any one MSO could serve. The rule, which had set a limit of 30%, has been mired in litigation from its inception and is currently on remand. Given the dominant MSOs' previous behavior, the limit is well justified. The leading study on discrimination supports a limit on ownership of 20%.[362] The study finds that horizontal market power is the central concern. Its finds vertical integration is clearly associated with discriminatory carriage rates. Indeed, it advocates lowering the cap to 20% on grounds very similar to those we identified in our initial comments.

However, because of the uncertain status of the limit, AT&T has played a game of cat and mouse with ownership at the FCC. The FCC has failed to enforce its ownership limits and has encouraged companies to play regulatory limbo through a variety of organizational artifacts to get under the ownership bar.[363] AT&T has never complied with the rules, preferring instead to launch an attack on the rules. Ignoring or attempting to change the rules, as AT&T and Comcast have done, does not change the fundamental economic facts that led to the rules in the first place. In the post-Enron era, the FCC must stop treating the ownership question so lightly. The opposition to the AT&T/MediaOne merger raised the concern that AT&T was twisting its ownership and management structure to claim a lack of ownership rights, which would run afoul of FCC rules. In other words, AT&T wanted ownership *without responsibility.*

> AT&T wants authorities to water down or abandon their definitions of influence over companies through ownership or through control of customers. Where the ownership is small AT&T wants the FCC to ignore it. Where it is large, AT&T wants the FCC to accept voluntary safeguards as a check on concentration of ownership.[364]

The 'old' AT&T/TCI/MediaOne was a jumble of management gimmicks including stock tracking, a management committee for Time Warner cable systems, and an independent operating agreement for Cablevision. These arrangements do not eliminate the ability of the AT&T parent to influence the decisions of its corporate children, and it is extremely difficult for regulators to police such arrangements to prevent abuses of influence. They deny regulators full oversight over major ownership decisions.

The proposed AT&T/Comcast merger takes this jumble of ownership mechanisms one step further, by adding a significant element of responsibility without ownership. AT&T retains substantial interests in each of the entities that were at issue in 1999, but now it will allow Comcast to run the company with a very small share of ownership. It will also insulate this nonowner management from the ultimate form of ownership discipline – getting fired – for an extremely long period of time. AT&T/Comcast is predicated on responsibility without ownership.

> The deal's Achilles' heel may be Comcast's plan to subjugate AT&T shareholder voting rights to management's effective control of the combined entity with only about 1% of the economic interest. Comcast wants to bundle approval of the AT&T Broadband merger with several anti-shareholder protection provisions: preventing removal of management for eight years, no combined board meeting until 2005, and limits of 10% stock ownership without board approval.[365]

The Enron debacle and numerous other examples of the mistreatment of stockholders by irresponsible management shed a very harsh light on these legal devices to divorce ownership from control and responsibility. The total abdication of responsibility in these deals can be underscored by AT&T's pride in the fact that the board of one of its subsidiaries never met. The new deal precludes the board from meeting for three years.

AT&T continues to play games in other ways. Before the AT&T/MediaOne merger was approved, Liberty had been spun off and pulled back so many times its corporate logo should now be a yo-yo. AT&T's spin-off of its stake in Liberty as a ploy to comply with the commission rules entailed the retention by Liberty of significant carriage rights on AT&T systems. John Malone, who controls Liberty, is seeking to activate his ownership in AOL Time Warner, in which AT&T continues to hold a substantial stake. AT&T continues to play a game with its stake in Cablevision. It claims to have reduced its voting share to 4.98% to get below the 5% attribution limit, but it owns more in nonvoting stock.

ATT says it will comply with the 30% rule (attributable ownership of

29.87% of the MVPD market) when the merger closes. This claim is based on a series of flimsy assumptions and promises. AT&T claims that it has reduced its ownership in Cablevision to 4.98% (to get under the 5% attributable level). It has irrevocably renounced its right to appoint board members. It promises to disentangle itself from Time Warner.

It is time for the FCC and other federal agencies to demand that stock ownership be restored to its simple and direct meaning. The FCC should reject these manipulated stock gimmicks. That would stop the merger in its tracks. It would require substantial divestiture of stocks and a complete restructuring of the deal.

AT&T/Comcast adds insult to injury. Although the company played games with its ownership stake, it still is not under the cap, which may be reinstated. Therefore, it plays games with the numbers to claim it is under the cap (**Table 7.1**). It has assumed a huge, and historically unprecedented, growth in the multi-channel video market in the last six months (during a recession) to inflate the total number of households that receive cable or satellite services. It has also double-counted households that subscribe to both cable and satellite.

- ***If either of these assumptions is wrong, or unfulfilled, AT&T/Comcast would violate the 30% limit.***

- ***If Cablevision or TWE is attributed to AT&T/Comcast, it would violate the 30% limit.***

The evidence overwhelmingly indicates that AT&T/Comcast would not be in compliance.

AT&T claims that the market for MVPD subscribers has grown about 50% faster in the past six months, in the midst of a recession, than it did in the previous four years, one of the longest and strongest boom periods in the past half century. While the market was expanding at this historically unprecedented pace, the four major entities in which AT&T claims an attributable ownership interest were contracting. Even if we exclude AT&T, which may have been selling off systems, the three other entities (Time Warner, Insight, and Comcast) were essentially stagnant. The claimed market expansion is inconsistent with the evidence. If we assume the MVPD market continued to expand at historic rates, and most observers believe its growth is slowing, AT&T would violate the 30% limit.

AT&T (and the FCC) use an approach that double-counts households that subscribe to both cable and satellite. The FCC assumes that the number is "expected to be low." However, several solid sources of data indi-

TABLE 7.1 AT&T/COMCAST will not be in compliance with the Federal Communication Commission 30% horizontal limit

	Double count	Single count
MVPD MARKET SIZE (millions of subscribers)		
ATT - /01/02	91.30	89.00
HISTORIC – O1/02 GROWTH RATE	90.20	87.90
FCC - 06/01 DATA	88.30	86.00
ATT/COMCAST MARKET SHARE IN PERCENT (ATT CLAIMS OF OWNERSHIP = 27.28 MILLION)		
ATT - /01/02	29.88	30.65
HISTORIC - O1/02 GROWTH RATE	30.24	31.04
FCC - 06/01 DATA	30.89	31.72
ATT/COMCAST MARKET SHARE IN PERCENT (WITH TIME WARNER= 38.63 MILLION)		
ATT - /01/02	42.31	43.4
HISTORIC - O1/02 GROWTH RATE	42.83	43.95
FCC - 06/01 DATA	43.75	44.92
ATT/COMCAST MARKET SHARE IN PERCENT (WITH CABLEVISION = 30.28 MILLION)		
ATT - /01/02	33.17	34.02
HISTORIC - O1/02	33.57	34.45
FCC - 06/01	34.29	35.21
ATT/COMCAST MARKET SHARE IN PERCENT (WITH TIME WARNER& CABLEVISION = 41.63 MILLION)		
ATT - /01/02	45.60	46.78
HISTORIC - O1/02	46.15	47.36
FCC - 06/01	47.15	48.41

Source: Comcast, 2002, pp. 49-51, for AT&T claims. Federal Communications Commission, 2002a, Table C-1 for historic growth rates; C-3 for Cablevision subscribers. Single count assumes 2.3 million dual households. Historic growth assumes 1.9 million increase in MVPD households 06/01 to 01/02.

cate the number is between 2 and 2.5 million, or 2 to 3% of the market. Given that AT&T/Comcast are clearly playing a game of compliance by hundredths of a percent, the double count becomes extremely important. Under every scenario we examined, AT&T/Comcast exceeds the 30% limit by a larger margin that it claims to be below the limit.

The Merger Fractures the DOJ Guidelines

The anticompetitive effects of size described above provide the context for evaluating the impact of the merger on the video market. As noted above, the merger guidelines of the Department of Justice identify mergers that raise concern by measuring the impact of the merger on the level of concentration in specific markets. We have pointed out that the national market is moderately concentrated. The AT&T/Comcast merger increases the level of concentration in multi-channel video markets by five times the DOJ threshold and facilitates the abuse of market power at the regional and local levels.

Table 7.2 presents estimates of national concentration in the MVPD market, under various assumptions about which cable systems should be counted (or attributed) to AT&T because of its ownership interests in those systems' attribution of ownership. Under the FCC assumptions, the merger results in a moderately concentrated market by raising the HHI by 300 points. The threshold for challenging a merger is 100 points. Under all the other assumptions, the increase in concentration is greater.

Table 7.3 shows that the increase in concentration in the national high-speed Internet access market also violates the merger guidelines. The market is moderately concentrated and the merger raises the level of concentration by more than 200 points, twice the threshold. This is particularly true for the residential market. In the residential high-speed Internet access market, AT&T/Comcast is a merger of the No. 2 and No. 3 largest operators. These effects are without attribution. Attribution would increase the effect to well over 300 points.

The heightened impact of the merger on the residential high-speed Internet access market reflects that satellite does not have a workable platform for delivering integrated, high-speed Internet and digital video services.[366] Indeed, there is also considerable debate about whether, or at least when, DSL will be capable of delivering fully integrated video over its copper wires.[367] Thus, based on the limited competition between satellite and cable, demonstrated in the previous section, and the limited competition between cable and telephone wires – not to mention the vigorous efforts of the cable industry to bundle video and high-speed Internet – a case can be made that the discussion of a national market should have one data point, the cable-only market. If the market is defined in this way, it constitutes the merger of the No. 1 and No. 3 firms in a moderately concentrated market. Even without attribution, the merger violates the guidelines if the market is defined in this way.

TABLE 7.2 Concentration of national cable eyeball market

Year		4-Firm	HHI	
1984		28	360	
1992		48	930	
2001				
	FCC without attribution	52*	905	
	with attribution	56**	1101	
	with attribution + Cablevision	60***	1254	
	with attribution + Cablevision + TWE	68****	1923	
				Merger related increase in HHI
AT&T/ Comcast	FCC without attribution	59	1218	313
	with attribution	64	1529	428
	with attribution + Cablevision	70	1749	495
	with attribution + Cablevision + TWE	77	2676	753

* The FCC double counts subscribers to both cable and satellite. In previous analyses, we have placed the MVPD market at 86 million rather than 88.3 million. This has caused some confusion. Since AT&T is claiming compliance by hundredths of a percent, we use the unduplicated count of 86 million.

** With attribution puts AT&T now claims 18.8 million subscribers having very recently sold off cablevision stock to get its ownership share to 4.98%.

*** AT&T claims of technical compliance with the attribution rules, or its ability to remain in compliance, given how close it has chosen to stay to limit of non-attribution have yet to be demonstated. Cablevision is estimated to have 3 million subscribers.

**** AT&T's efforts to divest its TWE holdings have been unsuccessful to date. The attributable TW subscribers are estimated at 11.35 million.

Sources: Federal Communications Commission, 2002a, Comcast, 2002.

The Anticompetitive Effects on the High-Speed Internet Market

Cable has a dominant position to exploit its market power. At each layer of the cable communications platform, cable operators exert market power. In the physical layer, they control approximately 85% of the customers in the video market and 65 to 75% of the high-speed Internet market. At the logical (or code) layer, they use proprietary standards, and they can control

TABLE 7.3 Estimated impacts of the merger on national high-speed Internet access service concentration

Source	All high-speed	CR-4	HHI	Merger related increase in HHI
Comcast	Before	56	1078	217
	After	64	1295	
Greenspan	Before	56	1161	277
	After	65	1438	

Source: Comcast, 2002; Greenspan, 2002.

the settings of protocols to determine which traffic can flow.[368] Policy-based routing is an approach to managing traffic flows that allows the network owner to favor its own content or foreclose specific content from specific providers. A particular bone of contention has been restrictions on the functionalities made available to competing suppliers of content (restrictions on streaming video or stripping of bits) and consumers (restrictions on upstream transmission or home-networking). Cable operators launched their high-speed Internet services under exclusive deals with a single provider in which the dominant firms held an operating interest. The dispute with non-affiliated service providers has extended to the customer relationship.

Cable operators have a strong incentive to retard innovation that might compete directly with their core video services, or even indirectly for consumer video entertainment attention. Restricting the number of service providers and the services they can provide ensures cable companies control over innovation and takes away the incentive to develop new applications. This scenario is the antithesis of how the Internet was created. In the narrowband Internet, intra-modal competition at the level of content – ensuring that content providers and applications developers were given non-discriminatory access to facilities – was highly successful in stimulating entry and innovation.

AT&T, along with other cable companies, promised the commission and Congress that it would abide by the terms of the 1996 Telecommunications Act and allow the development of a competitive set-top box marketplace to move forward. AT&T and the other cable companies agreed to the timeline set out in the law, that by July 1, 2001, the market for set-top boxes would be open. It broke that promise – AT&T and the other cable operators have ensured that they will retain their lucrative customer

equipment cash cow by keeping the Cable Labs standards process closed. AT&T uses its analog set-top box leasing scheme to subsidize its digital set-top boxes. Analog boxes cost the same as digital boxes when customers lease them monthly, but if a customer breaks the analog box, that customer must pay $200. However, if a customer breaks a digital box, the customer must pay AT&T $800. As a result, AT&T has a powerful interest to ensure that this market remains closed. By slow-rolling the technical standard and forcing would-be set-top box competitors to sign an egregious licensing agreement whereby the company signing the agreement would have to virtually forfeit their intellectual property, the cable operators have killed any near-term possibility of an open set-top market.

Microsoft's relationship to both AT&T and Comcast is a matter of significant concern as well. At the key moment in the bidding wars that AT&T engaged in for both MediaOne and Comcast, Microsoft was the deep pocket. In this transaction, in exchange for putting up cash, Microsoft gets preferential treatment. To fulfill their promise to the public and Congress for an open set-top box market, AT&T offers a backroom deal cut with Microsoft that gives Microsoft preferential treatment for MSN Internet services and for operating software on set-top boxes. In reality, this is not an open market. Rather, it is a dramatic step that moves set-top box architecture closer to closure.

Allowing the merger will exacerbate the problem because one large closed system is worse than two smaller closed systems. By bringing an ever-larger segment of the market under the control of a single entity, steadfastly opposed to nondiscriminatory access, the merger weakens the incentive to provide open access (a large enough market share insulates the dominant firm) for the system and forecloses a larger segment of the market to independent content providers. It allows a dominant firm to more easily dictate standards.

Promised Consumer Benefits of Past Mergers Have Either Failed to Materialize or Do Not Require Mergers to Be Achieved

When companies in the cable market – which is concentrated at the national and regional levels and a virtual monopoly at the point of sale – with its long history of market power abuse, decide to grow through acquisition, the anticompetitive and anti-consumer effects of the mergers become obvious. To divert attention from these negative effects, the merging parties falsely claim that consumers will be better off, even though actual or potential competition is diminished in the core market, and promise to

compete in some other market or for some other product.

As with each of its previous mergers, AT&T claims that only through the merger can consumers enjoy the benefit of more facilities and competition in the new markets that it will enter. Those benefits either never materialize or are paltry compared to the harm caused by the increased market power resulting from the merger.

Local telephone competition does not depend on the merger and is likely to be small.

Three years ago, to support its purchase of MediaOne, AT&T insisted that only an integrated telephone/cable company could deliver competition in the telephone market. Now it is claiming that only by breaking up the company and selling its cable business to another cable company can cable company competition for local telephone service be furthered. In the process of approving mergers between regional bell operating companies, the FCC has repeatedly rejected the claim that unique expertise must be brought to bear in the local telephone market.[369] If the FCC believed that telephone expertise is a unique asset that must be brought to bear to enter the local telephony market, it could never have allowed the elimination of four of the largest local telephone companies. It would be utter hypocrisy to allow mergers in the telephone industry because telephone expertise is not critical and to allow mergers in the cable industry because it is.

The failure of other cable operators to offer telephone service reflects serious doubts about the economic viability of providing circuit-switched telephony over cable facilities, not AT&T's superior telephony skills. AT&T's failure to negotiate telephone carriage agreements with other cable operators reflects their doubts about AT&T's approach to local telephone service and the closed, exclusionary approach that afflicts the industry. The success of IP-telephony, for which other cable operators appear to be waiting, certainly does not depend on this merger.

Finally, the large urban areas that are being acquired and clustered by this merger already enjoy the highest levels of competition. Thus, even if there were some reason to believe the merger would increase competition from cable telephony, the impact would take place in those markets that need it least.

Unique efficiencies and synergies flowing from the merger are dubious, and efficiency gains are not likely to be passed on to consumers because of a lack of competition.

The uniquely complementary managerial skills that AT&T/Comcast claim to attribute to each other are dubious at best and certainly do not flow from

a vertical union of the two. For example, if Comcast actually possessed unique regional programming, and were not using its vertical market power to offer programming only to captive cable customers, it would certainly be offering to develop and sell programming on neighboring (and, we are told, non-competing) systems.

Claims that the merger is necessary to achieve an upgrade of AT&T's plant are dubious. Although most of the industry is upgrading its plant for digital video and high-speed Internet access service, AT&T claims it must merge to finish the upgrade, because only the huge size and combination with Comcast will allow it to get the job done. In fact, the cable operators in the rest of the industry, who are much smaller than AT&T, have done as well or better than AT&T.[370] Perhaps what AT&T needs is new management, not bigger size.

The efficiencies and synergies that AT&T/Comcast claims will flow from its huge size and clout in the market will not be translated into consumer benefits, as they claim. The FCC's own data show that larger[371] and more regionally[372] powerful multiple system operators (MSOs) charge more.

CHAPTER 8

Policies to ameliorate anticompetitive problems will be difficult to craft

Federal Conditions

Given the massive harm to competition that the merger is likely to cause, it should not be allowed to close. Antitrust and regulatory authorities frequently attempt to impose conditions on mergers to ameliorate the competitive problems and allow the merging parties to achieve efficiency gains. Any decision to allow the merger to go forward would have to impose a very substantial set of conditions to prevent the harm (see **Table 8.1**).

To begin with, conditions would have to be imposed at each layer of the platform. The conditions would have to cover both structure and conduct. Structural conditions alone would be inadequate because of the potent means of anticompetitive behavior available in communications platforms.

As suggested above, the cornerstone of giving competition a chance in the cable industry is the horizontal limit on ownership. The 30% limit has been thoroughly justified on remand and should be implemented. Ownership structures should be simplified and attribution should be based on all stock ownership.

Given the immense power of the cable distribution system, a dominant player should not be allowed to own a second distribution network (e.g. a broadcast station). Even at the 30% limit, an obligation for nondiscriminatory access to the advanced telecommunications capabilities of the cable network should be imposed.

At the code layer, federal authorities must require open protocols and operating systems for the dominant firm. This applies to both interactive TV and Internet services.

The dominant firm should not be allowed to withhold functionality or to manipulate quality of service to favor its affiliates in the information service market.

TABLE 8.1 Conditions necessary to ameliorate anticompetitive problems in the AT&T COMCAST merger (policies in bold are local level)

Information platform layers	Economic characteristics	
	Structure	Conduct
Physical	30% Limit Prevent Ownership of Second Distribution Platform	Non-Discrimination
	Public Backbone, Upgrades	**Most Favored Access for City, Maintain Consumer Quality of Service**
Code	Open Set Top Box, Protocols, and Operating Systems	Availability of Functionality Quality of Service Parity
Content	Vertical Limits	Open Program Access, Ban on Exclusives, Review Contracts, Ban Anticompetitive Practices Predation, ISP Control of Customer Relationship
		Ban Withholding, Maintain Rate Concessions

At the content layer a dominant firm such as AT&T/Comcast poses unique problems when it is vertically integrated. Because of its size, it may be necessary to limit the amount of affiliated programs that can occupy its channels. Issues such as digital must-carry requirements should be reexamined because of the huge size of the dominant firm.

The wide range of anticompetitive practices used repeatedly by the cable industry should be explicitly banned as a condition of the merger. Denial of program access and exclusive contracts are prime examples. The Department of Justice should review contracts and monitor business practices such as predation. Internet service providers should be allowed to control the customer relationship.

Local Franchise Authorities Have Grounds to Deny or Impose Conditions on the Transfer of the Cable Franchise

Federal authorities are not likely to impose this full range of conditions. State and local authorities could add a layer of protection for consumers and competition. In almost two decades since the federal government pre-empted most rate regulation and other local oversight over the cable TV companies, federal authorities have been unwilling or unable to prevent abuse of market power by the cable industry. Local franchising authorities have been frustrated by federal pre-emption of oversight over the business practices and operation of cable franchises. Things are likely to get worse, not better, because the FCC has recently declared its intention to allow cable operators to keep their advanced telecommunications networks closed.[373] In the process, it will further erode local authority over cable companies. At the same time, the FCC is considering relaxing rules governing the size of cable companies, as well as the ability of cable companies to own alternative forms of media distribution.

Transfer of the franchise is one area in which local authorities still have a major role to play. The transfers occasioned by the AT&T/Comcast merger provide an important opportunity for local officials to take measures to protect their citizens in six areas in which LFA conditions are justified – consumer protection, financial responsibility, local equipment, access to advanced telecommunications services, promotion of competition, and rates.

Although federal law has usurped much of the local authority over cable companies, to the detriment of consumers, it has not pre-empted the ultimate franchise. The LFA has the authority and responsibility to promote the public interest and to protect the consuming public.

The franchise is a contract negotiated by the local authority on behalf of its citizens. The AT&T/Comcast merger is a material change in the conditions of the franchise, not only involving increased debt, risk, and changes in management, but also involving changes in ownership form.

When the LFA initially awarded the franchise, the company made representations about the franchisee's financial stability, customer service, and deployment of high-speed Internet service. At the same time, the anticompetitive and anti-consumer practices of the cable industry in the video and advanced telecommunications service market impose direct, substantial, and growing harm to the consumers. The LFA is empowered, even obligated, to prevent this harm under traditional state contract law. The LFA can insist on provisions in the franchise agreement to empower it

to monitor and take action against such practices.[374] If the changes wrought by the merger increase the possibility that the benefits the LFA bargained for on behalf of its citizens will not be delivered, then the LFA should reject the transfer, or in the alternative, condition the transfer on AT&T/Comcast's agreement to pro-competitive, pro-consumer stipulations.

In the AT&T/Comcast merger, the threat goes well beyond the likelihood of anticompetitive and anti-consumer practices. The financial and management structure of this company will be a nightmare for LFAs. The new structure will result in less financial transparency and will look much more like an impenetrable feudal castle than a modern stock corporation. For some LFAs the problem goes even deeper. AT&T and Comcast are informing some that the form of ownership will be transformed into partnerships and limited liability companies, instead of a normal "C" corporation. This LLC business form short-circuits disclosure and allows major policy changes without the corporate board's approval. Further, the LFA cannot examine the books and records of the local franchise corporation (there are none). The LLC form also encourages AT&T/Comcast to transfer cash out of the local community to corporate headquarters, because there are no tax consequences of declaring dividends from subsidiaries to the parent.

The financial terms of the AT&T/Comcast transaction puts immense pressure on the merged company to increase profitability at the expense of local franchises. The company has declared its intentions to raise prices and slash both operating costs and capital expenditures. Capital spending will be under immense pressure – the company's SEC filing admits as much. The ability of the company to deliver on its promised system upgrades and customer service improvements are doubtful.

This merger raises the centralization of the industry to a new level and threatens the ability of the company to deliver quality service. The first thing to go will be customer service. It will go farther and farther from the local franchise into regional and national call centers, call centers that will serve not only a wide variety of geographic areas but also many different services.

Routine areas of franchise renewal and transfer are clearly affected by the proposed merger. The LFAs must pay close attention to detail to ensure that a huge corporation that sees itself as a major national player across a number of product markets will not ignore the interest of local areas and consumers.

Consumer Protection: Consumer protection becomes more and more important as local franchises are merged into huge national systems. Quality

of service commitments must be more precise and enforceable. Given that call centers will be centralized hundreds, if not thousands, of miles from the local area, customer service standards should be outlined with much greater detail and monitored much more closely than in the past. Local staffing levels should be preserved to ensure quality service.

Local Facilities: For the past decade, LFAs have been negotiating significant improvements in local communications networks as part of the franchise transfer and renewal process. It is now time to take that policy to another level. LFAs should consider the cable system as a major cornerstone for a universally available advanced telecommunications infrastructure through public backbone upgrades. The transfer threatens capital availability for system expansion and upgrades. They must negotiate guarantees for their communities that adequate capital will be provided to the franchisee from the parent to eliminate the digital divide..[375] This package should include more capacity pushed farther out into the community.

As the information superhighway more and more becomes the main thoroughfare of our digital economy, local governments may come to realize that they cannot allow private parties to own and operate the avenues through which the activity of daily life flows. For two centuries, a fundamental principle of our open economy and democratic society has been that the means of communications and commerce – roads, canals, railroads, telegraph, telephone – have been open to all on a nondiscriminatory basis. Cable companies reject this principle, and the FCC has now abandoned that principle.

More and more cities are realizing they cannot allow this. They would never allow private parties to own and control the streets. They should find it unacceptable that as digital convergence creates the information superhighway, cable companies are allowed to run these vital networks as private toll roads, dictating who gets to use them, what they can sell, and which innovations are allowed. Many have formed partnerships or built open communications networks to serve their citizens.

Financial Responsibility: The recent round of disclosures on financially irresponsible management, which has reached the cable industry, demonstrates that this is not just a stockholder problem. Manipulation of accounting and management that treats the companies like personal property affects employees and the quality of service given to the public.

Given the new, suspect ownership and management structure of AT&T/Comcast, the LFA must exercise much greater oversight over the flow of funds out of the local area. The transfer provides an opportunity to nego-

tiate new reporting and financial disclosure requirements to ensure that consumers do not become cash cows supporting other communities. Tough disclosure requirements and guarantees that reinvestment in the community will always equal or exceed specific percentages of system revenues should be negotiated. With strong incentives in the merged cable company to bleed the local areas dry, and then cry poverty when promises are not fulfilled, the LFAs must establish specific schedules and targets for plant upgrades, staffing, and service quality, with financial penalties for failure to meet these goals.

Given the severe threat to consumers that is unfolding at the FCC, local authorities must take aggressive steps to protect their citizens. The franchise is a potent local right. The request to transfer control of this franchise should be used creatively at this critical juncture.

Anticompetitive practices: Business practices that deny residents of the franchise territory the benefits of competition harm the public and are contrary to the public interest. The franchise agreement should prohibit such practices.[376] Examples include denial of access to programming and predatory pricing. Montgomery County, Maryland, enforced a ban that prevented Comcast from withholding sports programs.

Over-builders have alleged predatory pricing, in which the incumbent drops its monthly fees for a short period of time to customers in areas in which new entrants are trying to compete. Predatory pricing adversely affects consumers in the long term, as competitors are driven from the market. Cable companies have also refused to carry competitors' advertising, and AT&T is being sued for foreclosing the advertising market.[377] LFAs can ban these predatory and anticompetitive practices and establish procedures for hearing complaints on an expedited basis.

Most Favored Clause for Open Access: Cities and counties should insist on a clause that ensures that their citizens are the beneficiaries of open access policies no less favorable than any granted by AT&T/Comcast anywhere in the country. This will ensure that when the court overturns the FCC rulings on open access, the LFA can quickly get open access. The City of Pittsburgh adopted such a requirement. Without such a clause, AT&T/Comcast will insist that they do not have to provide it under the franchise agreement.

Privacy: Television viewing habits and surfing locations should be as confidential as library records or video store rentals. Customers deserve, and must demand, total privacy for every aspect of their use of services.

LFAs can prohibit data mining, video silhouetting, cross selling, list sharing, and every other use of a customer's information (or uses derived from customer information). This becomes even more critical as the ITV set-top box becomes the device through which more and more daily activity is conducted.

Rates: LFAs have been able to negotiate rate concessions for specific classes of customers (e.g., seniors). With the pressure on the bottom line created by the costs of these mergers, LFAs must be vigilant in preserving senior discounts and other pricing benefits granted by the cable operator. The City of Cambridge, Mass., is in court over a senior discount that was slashed from $5 to $.69 by AT&T's questionable interpretation of the franchise agreement it signed when it bought MediaOne a couple of years ago.[378] After two decades of relentless rate increases, it may be time to use the franchise transfer process to bargain for all citizens in the franchise area. Cities can demand nondiscriminatory rates. This combats the anti-competitive and predatory practices of the industry.

Conclusion

Under any reasonable interpretation of either the Communications Act or the antitrust laws, this merger should be rejected. The failure of the DOJ and the FCC to enforce their rules has resulted in substantial harm to consumers. This merger would make matters much worse, creating a huge national entity with consolidated control over important regional markets. Federal authorities have let consumers down.

If either of these companies had achieved the size and scope of the merged entity through competition, then we would not be objecting. Indeed, we would not even have an opportunity to object, because the acquisition of market size and market power through superior efficiency and competition is not objectionable under the antitrust laws. It is only because these companies do not build new systems to compete, but instead choose to buy each other out, that they come under the scrutiny of the antitrust laws. [379]

This point deserves emphasis. Often overlooked in the debate and review of mergers in Washington, D.C., is the utter refusal of the dominant cable companies to compete with one-another. It has been legal for quite some time for these companies to enter the service territories of the cable TV companies they are proposing to buy, or any other cable company in the nation. They could have obtained the requisite permits and built competing cable system to win customers. This kind of head-to-head competition would certainly be in the public interest. Through this competition, they could have grown as large, or larger than the proposed post-merger company would be.

They did not choose to do so. *They never do.*

Ironically, in the twisted logic of the cable TV industry, which was born and raised behind the wall of monopoly franchise service territories, the fact that these companies have never competed with one another[380] and have no plans to compete head-to-head[381] is touted as justifying their be-

coming even larger. In other words, having been granted a monopoly area within which to build a market base and later disdain the opportunity to compete for customers outside their service territories, they claim they are to be rewarded for failing to compete by merging monopolies.

There is a simple principle that applies to the industry: "if you let them, they will merge. If you do not let them merge, maybe they will eventually compete." These companies clearly have a mandate for growth. If they were not allowed to do so through merger and acquisition, they would have to grow through competition. The merging parties have failed to show that the likely benefits of the merger exceed its harm. To the contrary, there are virtually no demonstrable and verifiable public interest benefits that could not be achieved if there were no merger, and substantial public interest harm if there is a merger.

Although this merger could be rejected under the standards of the antitrust laws alone, in the case of mergers involving media and communications companies, the competitive standards under the Sherman Act are actually not the front lines of scrutiny. Media and communications mergers are held to a higher standard under the Communications Act because they affect not only consumers in the commercial marketplace for information products, but also citizens in the marketplace of ideas.

Under the public interest standard, the applicants must do more than show that the merger does not violate existing law: They must demonstrate that real, concrete benefits will accrue to the public, that the merger will not frustrate the FCC's ability to enforce the provisions of the Communications Act or its own regulations, and that the pro-competitive benefits of the merger will outweigh the loss of competition that results from any merger. Thus, even if it could be shown, under the antitrust laws, that there is a net commercial consumer gain from the merger, the commission could find that the merger does not promote the public interest because it harms civic discourse.

In the case of the AT&T/Comcast merger, there is no such quandary. The merger clearly flunks both tests. The AT&T/Comcast merger violates the letter and the spirit of the Department of Justice merger guidelines in several markets and several aspects of the FCC rules governing the cable industry.

The merging parties have failed to show that the likely benefits of the merger exceed it harms. On the contrary, there are virtually no demonstrable and verifiable public interest benefits that could be achieved only with the merger and substantial public interest harms that could result because of the merger.

The fact that the last, bad merger was approved on the same false

promises should not justify approval of the next bad merger. To the contrary, it is about time that the commission learned the obvious lesson. The highly concentrated cable industry possesses market power, and these mergers are making it worse. Enough is enough. This merger must be denied.

Endnotes

1. U.S. Department of Justice (1998). The Department of Justice press release refers to the "cable monopoly." In remarks made at the press conference, Assistant Attorney General Joel Klein added the adjective persistent.

2. Counting cable subscribers has been a contentious and litigious process (*Time Warner Entertainment Co., L.P. v. FCC*, 240 F.3d 1126 [D.C. Cir. 2001]. Throughout this analysis I accept the definition of multi-channel video even though my findings that satellite does not compete effectively against a large part of the cable market indicate that a narrower market definition would be appropriate. The FCC also has encouraged arcane ownership structures through which cable operators have evaded the 30% limit on the percentage of the national market that they could control. AT&T owns a great deal of stock in Time Warner and Cablevision, which it claims does not have influence. See Comcast (2002a) and Cooper (1999a).

3. Cooper (2000a).

4. Lauer Research (2002).

5. Cooper, Mark (1995).

6. U.S. Department of Justice and Federal Trade Commission (1997, 1).

7. USC, 47, 310 (b).

8. Scherer and Ross (1990, 4). Shepherd (1985, 5) presents a similar view, as do Viscusi, Vernon and Harrington (2000, 62).

9. "Decisions as to what, how much and how to produce should be efficient in two respects: Scarce resources should not be wasted, and production decisions should be responsive qualitatively and quantitatively to consumer demands.

"The operations of producers should be progressive, taking advantage of opportunities opened up by science and technology to increase output per unit of input and to provide consumers with superior new products, in both ways contributing to the long-run growth of real income per person. The operation of producers should facilitate stable full employment of resources… The distribution of income should be equitable. Equity is notoriously difficult to define, but it implies at least that producers do not secure rewards in excess of what is needed to call forth the amount of services supplied." Scherer and Ross (1990, 4).

10. "One further benefit is sometimes attributed to the working of competition, although with less logical compulsion. Because of the pressure of prices on costs, entrepreneurs may have especially strong incentives to seek and adopt cost-saving technological innovation. Indeed, if industry capacity is correctly geared to demand at all times, the *only* way competitive firms can earn positive economic profits is through innovative superiority." Scherer and Ross (1990, 20).

11. "Pure monopolists, oligopolists, and monopolistic competitors share a common characteristic: each recognizes that its output decisions have a perceptible influence on price… All three types possess some degree of power over price, and so we say that they possess monopoly power or market power…The power over price possessed by a monopolist or oligopolist depends upon the firm's size *relative to* the market in which it is operating." Scherer and Ross (1990, 17-18).

12. Scherer and Ross (1990, Chapter 18).

13. "In modern economic theory, a market is said to be competitive (or more precisely, purely competitive) when the number of firms selling a homogeneous commodity is so large, and each individual firm's share of the market is so small, that no individual firm finds itself able to influence appreciably the commodity's price by varying the quantity of output it sells…Homogeneity of the product and insignificant size of individual sellers and buyers relative to their market (that is, *atomistic* market structure) are sufficient conditions for the existence of pure competition, under which sellers possess no monopoly power. Several additional structural conditions are added to make competition in economic theory not only "pure" but "perfect." The most important is the absence of barriers to entry of new firms, combined with mobility of resources employed." Scherer and Ross (1990, 16-17).

14. Asch (1983, 100-104).

15. U.S. Department of Justice (1997).

16. Shepherd (1985, 389) gives the following formulas for the Herfindahl-Hirschman Index (HHI) and the Concentration Ratio (CR):

$$H = \sum_{i=1}^{n} (S_i)^2$$

$$CR_m = \sum_{i=1}^{m} S_i$$

where
n = the number of firms
m= the number of largest firms selected for scrutiny (e.g., 4, in the case of the 4-firm Concentration Ratio)
S_i = the share of the ith firm ranging from 0 to 100 %.

17. Viscusi, Vernon and Harrington (2000, 212).

18. Friedman (1983, 8-9).

19. "Market power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time. In some circumstances, a sole seller (a 'monopolist') of a product with no good substitutes can maintain a selling price that is above the level that would prevail if the market were competitive. Similarly, in some circumstances, where only a few firms account for most of the sales of a product, those firms can exercise market power, perhaps even approximating the performance of a monopolist, by either explicitly or implicitly coordinating their actions. Circumstances also may permit a single firm, not a monopolist, to exercise market power through

unilateral or non-coordinated conduct – conduct the success of which does not rely on the concurrence of other firms in the market or on coordinated responses by those firms. In any case, the result of the exercise of market power is a transfer of wealth from buyers to sellers or a misallocation of resources.

"Sellers with market power also may lessen competition on dimensions other than price, such as product quality, service, or innovation." U.S. Department of Justice (1997, section 0.1). Sullivan and Grimes (2000, 596-597) describe the kind of behavior targeted by the DOJ approach as follows:

"The coordination that can produce adverse effects can be either tacit or express. And such coordination need not be unlawful in and of itself. According to the 1992 Guidelines, to coordinate successfully, firms must:

(1) reach terms of interaction that are profitable to the firms involved, and

(2) be able to detect and punish deviations. The conditions likely to facilitate these two elements are discussed separately, although they frequently overlap.

In discussing how firms might reach terms for profitable coordination, the Guidelines avoid using the term "agreement," probably because no agreement or conspiracy within the meaning of Section 1 of the Sherman Act is necessary for the profitable interaction to occur. As examples of such profitable coordination, the Guidelines list 'common price, fixed price differentials, stable market shares, or customer or territorial restrictions.' Sometimes the facilitating device may be as simple as a tradition or convention in an industry."

Sullivan and Grimes (2000, 530) describe the mechanisms that might be used and the usefulness of the HHI in this regard:

"Oligopoly conditions may or may not require collusion that would independently violate Section 1 of the Sherman Act. A supracompetitive price level may be maintained through price leadership (usually the leader is the largest firm), through observance of a well-established trade rule (e.g., a convention of a 50% markup in price among competing retailers), or through strategic discipline of nonconforming members of the industry… "To the extent that one or very few members of a concentrated industry have much higher market shares than other members, the opportunities for strategic disciplining may expand… The expanded ability of the larger firm to coerce price discipline is reflected in the Herfindahl-Hirschman Index (HHI), which will assign a high concentration index to an industry with a very large participant. An industry with the same number of participants, each of them roughly equal in size, will have a lower index."

20. Viscusi, Vernon, and Harrington (2000, Chapter 5); Fudenberg and Tirole (1989); Shapiro (1989).

21. Although the unfolding saga of gaming the electricity market has captured the headlines, there has been an instructive, decade-long debate about collusive, non-collusive, and unilateral actions in the electricity market carried out in the academic literature. For a sampling see Freidel (1992, 1997); von der Fehr and Harbrord (1993); McDiarmid, Robert C., Lisa G. Dowden, and Daniel I. Davidson (2000); Wolfram, (1998); Klemperer (2000, 2001, 1); Brunekreeft (2001), Klemperer (2001). Borenstein, Severin (2001).

22. Sullivan and Grimes (2000, 138-139).

23. Sullivan and Grimes (2000, 138).

24. Rubinfeld and Singer (2001, 632).

25. "[V]ertical mergers may enhance barriers to entry into the primary industry if entrants must operate at both stages in order to be competitive with existing firms and if entry at both stages is substantially more difficult than entry at one stage." Perry (1989, 247).

"To avoid these hazards, firms entering either of the markets in question might feel compelled to enter both, increasing the amount of capital investment required for entry." Scherer and Ross (1990, 526).

26. Shepherd (1985, 289-290).

27. Perry (1989, 247); Shepherd (1985, 294).

28. "Subsidization: The conglomerate firm can choose to behave in a predatory fashion in one market, subsidizing its predation from profits earned elsewhere. "The simple concept involved in cross subsidizing is that conglomerates can use profits from branch A to support deep, "unfair" price cuts by branch B …" Asch and Senaca (1985, 248). "If all branches of a diversified firm are dominant in their markets, their pooled resources are likely to increase their dominance through greater price discrimination, threats of punitive actions, and so forth. By contrast, a string of small-share branches is more likely to promote competition than to reduce it, if it can help its members at all." Shepherd (1985, 302).

29. "Substitution elasticities of unity and less normally imply that inputs are indispensable, that is, that no output can be produced until at least some use is made of each relevant input. When the monopolist of an input indispensable in this sense integrates downstream, it can make life difficult for remaining downstream competitors. It can refuse to sell the input to them, driving them out of business. Or it can sell it to them at a monopoly price, meanwhile transferring input at marginal cost to its affiliated downstream units, which, with their lower costs, can set product prices at levels sufficiently low to squeeze the rivals our of the market. Scherer and Ross (1990, 524).

30. There is a growing body of theoretical and empirical analysis that has reinvigorated concerns about the anticompetitive effects of vertical integration, particularly in the cable industry. See Krattenmaker and Salop (1986) and Ordover, Sykes, and Willig (1985).

31. "The *Guidelines* do recognize three major competitive problems of vertical mergers in concentrated industries. First, forward mergers into retailing may facilitate collusion at the manufacturing stage by making it easier to monitor prices or by eliminating a 'disruptive buyer.'" Perry (1989, 247).

32. Asch and Senaca (1985, 248).

33. Scherer and Ross (1990, 526-527); Shepherd (1985, 290).

34. U.S.C. 47, 601.

35. Associated Press v. United States, 326 U.S. 1. 20 (1945).

36. FCC v. National Citizens Committee for Broadcasting, 436 U.S. 775 (1978).

37. Red Lion Broadcasting v. FCC, 395 US 367 (1969).

38. Turner Broadcasting System, Inc. v. FCC, 512 U.S. 622, 638-39 (1994); Time Warner Entertainment Co., L.P. v. FCC, 240 F.3d 1126 (D.C. Cir. 2001).

39. Associated Press, 326, U.S. at 17.

40. Fox v. FCC (12-13).

41. Scherer and Ross (1999, 18).

42. Scherer and Ross (1990, 18).

43. "Nor did the majority of the justices jump through the typical hoops of defining a relevant market, determining market share and the restraints' impact on price and examining issue of entry or expansion by the other news wire services. Rather the majority was satisfied that AP was sufficiently large to impact the marketplace of ideas, in that it was 'a vast, intricately reticulated, organization, the largest of its kind, gathering news from all over the world, the chief single source of news for the American press, universally agreed to be of prime consequence.'" Stucke and Grunes (2001).

44. "Americans continue to value institutions the scale and workings of which they can comprehend. Many continue to value the decentralization of decision-making power and responsibility. Many favor structures in which power in its own locus may be checked by power in another." Sullivan (1977).

45. The political concerns of horizontal and vertical market power are mingled in the discussions of civic discourse, with localism a central concern. "Local firms are normally knit into their communities, with the companies' officials contributing and participating in local affairs… When taken over by large firms, the local companies typically stop their local involvement." Shepherd (1985, 304).

46. Subcommittee on Communications, Committee on Commerce, Science and Transportation (1983).

47. Cooper and Kimmelman (1999).

48. U.S. C. 47,Title II, part 5.

49. Federal Communications Commission (1998, Appendix C).

50. Comcast (2002a, 66).

51. Comcast (2002a, 93).

52. Federal Communications Commission (2001a).

53. Ordover (2002, 23).

54. Ordover, 2002, 20).

55. Ordover (2002, 4).

56. Ordover, (2002, 10). See also Ordover (2002, 46). "First, because of the growing competitive threat from DBS and other alternative MVPDs, franchised cable systems have private incentives to provide good customer service and signal quality independent of the franchise renewal process. The demonstrated ability of customers to switch from cable to DBS and alternative providers is very important here. If these other MVPD distributors can garner share from the foreclosing firm by virtue of offering superior programming (and attractive rates), then even being foreclosed from a large

MSO does *not* mean that a foreclosed programmer will lose a significant share of the distribution needed to maintain competitive viability." Ordover (2002, 53).

57. Ordover (2002, 59).

58. Rosston and Shelanski (2002) start the substantive discussion of their reply comments in the horizontal limits proceeding with a section (p.3) titled "The Major Concern in This Proceeding is the National Market for Video Programming." In that section, they claim that "we assess the economic incentives that may give rise to concern about monopsony power from cable concentration on a national level and look at performance of the national programming market to see if there is any evidence of monopsony harm." Yet at the core of their discussion just three pages later, they are forced to rely on competition at the point-of-sale (i.e. the local market) as the critical disciplining force. In fact, they admit that the public policy issue of greatest concern is most affected by the status of competition at the point of sale.

59. Federal Communications Commission (2001a, 36).

60. Federal Communications Commission (2001a, 36).

61. This effect is termed the "Cross Elasticity of Demand": the responsiveness of quantity demanded of one good to a change in the price of another good.

"Where goods i and j are substitutes the cross elasticity will be positive -i.e. a fall in the price of good j will result in a fall in the demand for good i, as j is substituted for i. If the goods are complements the cross elasticity will be negative. Where i and j are not related, the cross elasticity will be zero." Pearce (1984, 94).

"A sharp decrease in the price of motor scooters or rollerblades will decrease the demand for bicycles. Why? Because buying these related goods becomes relatively more attractive than buying bicycles. Motor scooters or rollerblades are examples of substitutes for bicycles. A substitute is a good that provides some of the same uses or enjoyment as another good. Butter and margarine are substitutes. In general, the demand for a good will increase if the price of a substitute for the good rises, and the demand for a good will decrease if the price of a substitute falls." Taylor (1998, 59).

"Substitutes. Products that at least partly satisfy the same needs of consumers. Products are defined as substitutes in terms of cross-price effects between them. If, when the price of records goes up, sales of compact discs rise, compact discs are said to be a substitute for records, because consumers can to some extent satisfy the need served by records with compact discs. This account is complicated by the fact that, when the price of an item changes, it affects both the REAL INCOME OF consumers and the relative prices of different commodities. Strictly, one product is a substitute for another if it enjoys increased demand when the other's prices rises and the consumer's income is raised just enough to compensate for the drop in living standards caused." Bannock, Banock and Davis (1987, 390-391).

"Cross-price elasticity of demand. The proportionate change in the quantity demanded of one good divided by the proportionate change in the price of another good. If the two goods are SUBSTITUTES (e.g. butter and margarine), this ELASTICITY is positive. For instance, if the price of margarine increases, the demand for butter will increase Bannock, Banock and Davis (99).

62. Federal Communications Commission (2002b, 11).

63. Federal Communications Commission (2002b).

64. Federal Communications Commission (2001b) describes the DBS variable as the level of subscription. Federal Communications Commission (2002b) uses the DBS dummy variable.

65. The cluster variable was included in the Federal Communications Commission 2000a and 2001b Price reports. Its behavior contradicted the FCC theory. It has been dropped from the 2002 report. The MSO size was included in the 2002 report. System size has been included in all three reports.

66. Vertical integration was included in Federal Communications Commission (2002b).

67. Goolsbee and Petrin (2001).

68. Rosston and Shelanski (2002, 20) dismiss this study on the grounds that the data precede the advent of local-into-local, but we point out it also largely precedes the advent of digital cable, which has negated the effect of local-into-local.

69. Ordover (2002, 62), footnotes omitted.

70. Goolsbee and Petrin (2001, 11).

71. Goolsbee and Petrin (2001, 4).

72. Goolsbee and Petrin (2001, 27).

73. Ordover (2002, 24).

74. Rosston and Shelanski (2002, 8).

75. Bazinet (2001, 4).

76. Ordover (2002, 23-27).

77. Boersma (1999).

78. Bazinet (2001, 9).

79. Richard Bilotti (1999, 9).

80. Bazinet (1).

81. Cable Television (2002, 1).

82. Bazinet (24).

83. In filings at the FCC, DirecTV states that its subscriber base was half urban and half rural. In the recent past, however, it claimed that about two-thirds of new subscribers have been from urban areas. Given that over three-quarters of the U.S. population lives in urban areas, satellite subscribers are still disproportionately rural. Federal Communications Commission (2001b, para 66).

84. Centeris (2002) puts this at 2 million. Morgan Stanley Dean Whitter (2000) puts the figure at 2.5 million. In the Consumers Union (2000) survey 11% of the respondents said they subscribe to both, which works out to about 1.8 million households.

85. Lauer (2002).

86. Federal Communication Commission (2001b, 20) notes that cable operators in only 330 communities have been granted status as effectively competitive on the basis of overbuilding.

87. Federal Communications Commission (2002b, Table C-1).

88. Kagan Associates. *Cable TV Master Database* (1998).

89. Federal Communications Commission (2002b, 20).

90. Federal Communications Commission (2001b, 34) notes increasing urban subscribers, but figures show that satellite is still disproportionately rural.

91. Rosston and Shelanski (2002, 23) discuss a hypothetical local market in which a cable firm has an 80% market share and a satellite company has a 20% share to make a point about the effect of concentration in national markets. They never discuss the local HHI, which would be 6,800. This meets the *Antitrust Guidelines* definition of a monopoly.

92. U.S. Bureau of Labor Statistics, *Consumer Price Index.*

93. Contrast Federal Communications Commission (1998, Appendix B), and Federal Communications Commission (2002a, Appendix B).

94. "Consider, for example, a case in which we have two products or services and can estimate the distributions of reservation prices (the maximum amounts buyers are willing to pay) for each product. By bundling the products together, we essentially create a new product. If the two products are independent in demand, some customers who would only buy one of these if they were priced individually will now buy both products. The reason is that the value these customers place on one product is so much higher than its price that the combined value of the two products exceeds the bundled price. In economic terminology, the consumer surplus (the amount by which the individual's reservation price exceeds the actual price paid) from the highly valued product is transferred to the less valued product." Guiltinan (1987, 75).

95. Rosston and Shelanski (2002, 19) ignore the bundles and tiers that pervade the cable industry and enhance its ability to price discriminate.

96. Industry pricing philosophy clearly exhibits an effort to capture consumer surplus. As an article in an industry journal pointed out just before deregulation: "If viewers can purchase one channel and watch a second channel for free, they never will pay the market value of the second channel. A more profitable alternative for the pay television operator would be to offer program type A on the first channel and program type B on the second, and then sell both channels as a package. At an appropriate price, consumers will purchase the package. Even if the costs of scrambling were minimal, the package selling strategy would be more profitable than selling each channel individually.

"The practice of bundling recognized that consumers have preferences not only for program types but also for program variety. For example, some consumers might pay $25 for service A only; $25 for service B only, but $37.50 for a bundle of both A and B. Bundling is like an insurance policy. Whatever occurs, the consumer can watch his or her preferred program. But package selling may be attractive even aside from its insurance policy attributes. With package selling, the profitability of carrying a program type depends not only on how much revenue it generates on its own, but also increases the total package's revenues." (Conrad, 1986).

97. The pricing strategy was apparent to some industry observers, as a Cisco publication noted: "Cable MSO management apparently agrees it is necessary to get more from each subscriber. Since the passage of the Telecom Act of 96, cable operators have taken the opportunity to raise subscription rates more than twice as fast as the consumer price index, clearly not a strategy for getting new households." Abe (1997, 217).

98. "Congress has been moving at an unusual speed to pass a bill that would give DBS providers the right to beam local network signals to local subscribers … 'It's not a cure-all,' said Hartenstein, who has run DirectTV since its incep-tion in 1990. For one thing, Hartenstein's business plan is not based on beaming local network signals to his customer base, soon expected to top 9 million. Instead, he is suggesting that subscribers buy new antennas to sup-plement their coverage. DirecTV is working with retailers to have the spe-cialized antennas available at reduced prices. He calls this program 'Dis-tant/Terrestrial,' meaning he sends you all the cable and movie channels you could dream of (for which he can charge), and you pick up the free network feeds with an extra antenna.

"Furthermore, Hartenstein's game plan does not include fighting for cable customers by undercutting cable prices. Analysts for the DBS and cable industries have shown that the average American homeowner will cough up $30 per month for TV. Above that level, both camps believe, many consumers will bolt and run. Hartenstein seems determined to compete on quality and depth of service, not on price." Mundy (1999, 32)

99. In trying to explain away the contradictory finding that the cross-price elasticity between cable and satellite had the wrong sign (Federal Communications Commission, 2002b, 11), the FCC suggested that the cable operators reporting DBS penetration numbers "is made up almost entirely of small operators, may not be representative of the response to DBS generally." Note that the same represenativeness problem invoked to discredit the contrary finding of a wrong sign of the price elasticity would also call into question the substitution effect.

100. This measure has been used for the past decade in the cable industry. In particular, it was used by telephone companies in arguing that they should be allowed to enter the cable TV business, see Shooshan and Jackson (1988); Grossman (1990).

101. Senate Committee Report at 13-14; House Committee Report at 45; Noam, 1984, at 15.

102. Direct estimates of price cost margins are virtually non-existent. Rubinovitz (1991).

103. For an explanation and interpretation of monopoly rents embedded in these prices, see Consumer Federation of America (2002a) and Consumer Federation of America (2002b).

104. The Lerner Index measures market power, which is the mark-up of price above costs. See Scherer and Ross (1990, 21-22) and Landes and Posner (1981, 947). Tobin's q is a direct measure of monopoly rents (which is the ratio of asset value to reproduction costs) Scherer and Ross (1990, 415-416). Therefore, we would expect price and Tobin's q to parallel one another, holding costs constant. The increase in HHI can be directly related to the Lerner Index by dividing by the elasticity of demand. Viscusi (2000, 149). Most recently the elasticity of demand has been estimated by the Federal Communications Commission (2002b, 29); it suggests rising monopoly rents consistent with the price and Tobin's q numbers.

105. Scherer and Ross (1990, 21-22) and Landes and Posner (1981).

106. The statistical evidence indicates the elasticity of demand is falling (i.e. growing more negative), which is consistent with monopolists who price by demand. They are driving prices up the demand curve. Compare Report on Cable Industry Prices (2000, 19), (2001, 17), and (2002, 17).

107. Ordover (2002a, 2002b, 2002c); Joskow and McLaughlin (2002); Shelanski (2002); Rosston and Shelanski (2002).

108. Ordover (2002c, para 13, 26).

109. Ordover (2002a, 36); (2002c, para 15, 35, 36).

110. Ordover (2002a, 34); (2002c, para 29).

111. Ordover (2002a, 37).

112. Joskow and McLaughlin (2002, 9).

113. Ordover (2002a, 35); Ordover (2002c, para 30).

114. Ordover (2002c. para 15); Joskow and McLaughlin (2002, 10).

115. Ordover (2002a, 17, 36); (2002c, para 43).

116. Ordover (2002c, para 87).

117. Ordover (2002a, 16, 21); (2002c, para 11, 74).

118. Ordover, 2002a, pp. 29-30; (2002c, paras 74-75).

119. Ordover (2002a, 40); (2002c, para 35).

120. Joskow and McLaughlin (2002, 15).

121. Shelanksi (2002, paras 24, 26, 29, 40,42).

122. Ordover (2002c, paras 35, 45); Shelanksi (2002, paras 24, 26, 29,40, 42).

123. Keating (1999, 19); Waterman and Weiss (1997, 56).

124. Keating (1999, 17-18) characterizes the incident as described in this paragraph: "It is also well known that Fox News Channel ("FNC") owes its very exis-tence to Telecommunications, Inc. ("TCI," since acquired by AT&T), whose agreement to carry FNC on systems serving 90% of TCI's subscribers was critical to the successful launch of the network. Not coincidentally, Fox made FNC available to incumbent cable operators on an exclusive basis. Like the saga of News Corp./EchoStar, FNC's launch and subsequent exclu-sivity to the cable MSOs is a case study of how the largest incumbent cable operators control the destiny of new programming services, and why pro-grammers sell to cable's competitors at their own risk."

125. Keating (1999, 170).

126. Joint Commenters (2001, 8).

127. Grossman (1997).

128. Federal Trade Commission (1996).

129. Breyer (1998, D1).

130. Anon, *Austin American-Statesman* (1999, B2).

131. Tyson (1999, A1) characterizes the incident as described in this paragraph.

132. Holloway (2000, E1).

133. Cocks (2000, D1).

134. Turner (2001).

135. Waterman and Weiss (1997, 65); Davis (1998, 97).

136. Waterman and Weiss (1997, 73); Davis (1998, 143).

137. Anon (2001b), *Cablevision*.

138. Ordover.

139. Yankee Entertainment Sports (2002, paras 1, 12).

140. Ibid., (paras 2,13).

141. Ibid., (paras 16, 29).

142. Ibid., (paras 16, 114).

143. Yankee Entertainment Sports (2002, para 66).

144. Ibid., (para 70).

145. Ibid., (2002, para 53, 67).

146. Ibid., (para 69).

147. Ibid., (para 89).

148. Ibid., (para 107).

149. Ibid., (para 64).

150. Ibid., (paras 36-40).

151. Ibid., (para 39).

152. Ibid., (paras 17, 28-29).

153. Ibid., (paras 34-35, 54).

154. Ibid., (paras 30-31).

155. Ibid., (paras 14, 41).

156. Ibid., (para 41).

157. Ahn, and Litman (1997).

158. Viacom International V. Telecommunication Inc., et. al. United States District Court of Southern New York, September 23, 1993.

159. Yankee Entertainment and Sports Network (2002).

160. Dertouzos and Wildman (1999).

161. Waterman and Weiss (1997).

162. Yankee Entertainment Sports (2002); Subcommittee on Antitrust, Monopolies and Business Rights (1988).

163. The loophole will be terrestrial transmission to regional clusters, which avoids the requirement to provide non-discriminatory access to satellite-delivered programming. Reddersen (1997) gives examples of Comcast in Philadelphia and Time Warner in Orlando (5). Lenart (1997) cites Cablevision in New York and a similar process seems to be developing in Detroit.

164. Subcommittee on Antitrust, Monopolies and Business Rights, Committee on the Judiciary, United States Congress, 1988, for early examples. More recently, for example, the Time Warner-Turner merger as originally proposed included preferential treatment for TCI. See Pitofsky, Steiger and Varney (1997).

165. Federal Communications Commission (2001a, para 28); Joint Comment (2001, 8).

166. HBO, a subsidiary of Time, played a key role in the effort to prevent TVRO operators from obtaining programming. See Chan Olmsted and Litman (1988, 11) and the effort to sell overbuild insurance. Subcommittee on Antitrust, Monopolies and Business Rights, Committee on the Judiciary, United States Congress (1988, 127, 152-174). The current efforts to impose exclusive arrangements have raised numerous complaints from potential competitors. Reddersen (1997); Lenart (1997). Everest (6) gives a different example.

167. Reddersen (1997, 4) cites examples of suspected exclusive arrangements involving Eye on People, MSNBC, Viacom, and Fox, as does Lenart (1997, 7).

168. Reddersen (1997) gives examples including NBC/CNBC, Scripps Howard/Home and Garden (5).

169. Mahoney (1997).

170. McAdams (1999); Yankee Entertainment Sports (2002).
"[R]ivalry in the broadcast network television industry have been clearly mapped… patterns of imitation that might be described as rivalrous imitation among the television networks. Program types that were popular, as indexed by ratings, were more likely to be imitated, while less popular program types were not. Imitation takes the form of emulating programs with high ratings and also spin-offs of successful series. As evidenced by other studies, the result of such rivalrous imitation among television networks was a decline in program diversity.

171. Dimmick and McDonald (2001, 201), citations omitted.

172. Chipty (2000, 429).

173. Waterman and Weiss (1997, 7).

174. Waterman and Weiss (1997, 66).

175. Waterman and Weiss (1997, 93-94).

176. "[O]perators integrated with basic programming successfully sell more basic cable subscriptions, despite their tendency to exclude certain program services from their distribution networks. These operators stimulate demand by offering somewhat larger basic cable packages with less programming duplication and more premium packages." Chipty (2000, 429).

177. "Similarly, operators integrated with premium programming successfully sell more premium subscriptions. While these operators offer fewer premium choices at higher prices, they manage to stimulate demand for premiums services by offering smaller, cheaper basic cable packages." Chipty (2000, 429).

178. "Estimates suggest that consumers are better off in integrated markets than in unintegrated markets, although the differences are not statistically significant." Chipty (2000, 430).

179. Waterman and Weiss (1997, 100) argue that economic efficiency results in roughly the same menu of programs offered by integrated and non-integrated programmers—they are just owned by the integrated MSO. Implicit in the process, variety is served at the expense of diversity of ownership and antagonism between owners. They do not show hard evidence of efficiency gains, however. Although we cannot be sure of the reasons for the observed outcomes of vertical integration, and evidence of the benefits of integration to consumers remains ambiguous, an overall empirical pattern emerges: The relatively minor effects on the total amount of programming made available suggest that the main result of vertical integration is the substitution of one similar network for another or, perhaps, more advantageous market of one rather than another.

180. Chipty (2000, 430).

181. The efficiency arguments that cause analysts who find discrimination to hesitate in concluding that it is strategically motivated have been criticized by Dertouzos and Wildman (1997, 14-25). In the context of bilateral bargaining between MSOs and programmers, they argue that the transaction costs that large MSOs use to justify their large discounts on programming are too small to be justified on efficiency grounds. They conclude that it embodies significant strategic discrimination against smaller MSOs. The same logic applies to efficiency gains from vertical integration. If transaction cost savings are small, then the efficiency gains of vertical integration are small as well.

182. With respect to the programming market, the Federal Trade Commission (1997, 7) found that:

"Entry into the production of Cable Television Programming Services for sale to MVPDs that would have a significant impact and prevent the anticompeti-tive effects is difficult. It generally takes more than two years to develop a Cable Television Programming Service to a point where it has a substantial subscriber base and competes directly with the Time Warner Turner "mar-quee" or "crown jewel" service throughout the United States. Timely entry is made even more difficult and time consuming due to a shortage of available channel capacity."

183. Federal Trade Commission (1997, 7).

184. In addition, the FTC concluded that:

"Respondent TCI has diminished incentives and diminished ability to ei-ther carry or invest in Cable Television Programming Services that di-rectly compete with the Turner Cable Television Programming Services because the PSA agreements require TCI to carry Turner's CNN, Head-line News, TNT and WTBS for 20 years, and because TCI, as a signifi-cant shareholder of Time Warner, will have significant financial incen-tives to protect all of Time Warner's Cable Television Programming." (1997).

The FTC also concluded that the Time Warner/Turner/TCI merger could reduce competition in distribution markets by:

"…denying rival MVPDs and any potential rival MVPDs of Respondent Time Warner competitive prices for Cable Television Programming Services, or charging rivals discriminatorily high prices for Cable Television Program-ming services." (1997).

185. RCN Telecom Service of New York, Inc. v. Cablevision Corp., DIRECTV v. Comcast; EchoStar v. Comcast. Problems can also occur on an event-by-event basis. See Everest (2001, 4); Gemini Networks (2001, 3); Gemini Networks (2001, 3).

186. Joint Comments (2001, 14).

187. "MSOs are already responding to the incentives to deny small cable com-panies access to programming.

"The incentives to deny programming and the consequences to program diver-sity are not hypothetical. In circumstances outside of Section 628(c)(2)(D), these incentives are already resulting in denial of programming to small cable companies
Braintree (2001).

"BELD (Braintree Electric Light Department) competes in Braintree with AT&T, the USA's largest company, and Echostar/DirecTV, the USA's larg-est satellite companies. If AT&T and other major MSOs could withhold pro-gramming from use, our video business would likely fail and consumers in Braintree would lose the benefits of true facilities-based competition.

"One major MSO is already denying BELD access to important regional programming. BELD's situation provides a clear example of how a major MSO will use program access to thwart a small competitor. NECN [New England Cable News], a regional news network partly owned by AT&T, re-fuses to sell its service to BELD, purportedly due to an exclusive contract with AT&T. This denies our customers important regional programming and hurts our ability to compete."

American Cable Association (2001, 16) elaborates:

"AT&T/New England Cable News ("NECN"). The Commission is familiar with NECN. In 1994, in response to a petition for exclusivity by Continental Cablevision, the Commission granted a limited waiver of Section 628(c)(2)(D) for NECN. The Order gave NECN an 18-month window to enter into exclusive programming contracts, and the exclusivity terms were to end by June 2001. AT&T is the successor to Continental's attributable interest in NECN.
"NECN has recently denied access to its service to at least one ACA member based on an exclusive contract with AT&T. This small system seeking access to NECN competes with AT&T in one market. NECN now claims that it is delivered terrestrially, and it cannot provide access to its programming because of its contract with AT&T."

188. Everest (2001, 6); Qwest (2001).

189. Everest (2001, 6) gives a different example: "AT&T/DigitalTVLand. AT&T owns Headend in the Sky ("HITS"), a whole-sale distributor of digital programming via satellite. HITS services have been instrumental in enabling many smaller systems to expand channel offerings through digital services, and ACA has been a prime supporter of this service. Among the digital services carried by HITS is TVLand, a popular entertain-ment channel. But of all the channels carried by HITS, ACA members can-not receive digital TVLand from HITS. AT&T apparently has a national ex-clusive contract for that service." American Cable Association (2001, 15).

190. "CTN [CT Communications Network Inc.], a registered and franchised cable operator, has been unable to purchase the affiliated HITS transport service from AT&T Broadband, the nation's largest cable operators, despite repeated attempts to do so…. Based on its own experience and conversations with other companies who have experienced similar problems, CTCN believes that AT&T is refusing to sell HITS to any company using DSL technology to deliver video services over existing phone lines because such companies would directly compete with AT&T entry into the local telephone market using both its owns system and the cable plant of unaffiliated cable operators. AT&T simply does not want any terrestrial based competition by other broadband networks capable of providing bundled video, voice and data ser-vices." Competitive Broadband Coalition (2001, 11).

191. Federal Communications Commission, (2001a, para. 28).

192. Joint Comment (2001, 8).

193. Qwest (2001, 3); Dertouzos and Wildmna (1999).

194. Joint Comments (2001, 9).

195. One of the more ironic arguments offered by the cable operators feeds off the observation that broadcast networks have carriage rights. They argue that even if cable operators foreclosed their channels to independent programmers, these programmers could sell to the broadcast networks. This ignores the fact that cable operators control the vast majority of video distribution capacity. There are approximately 60 channels per cable operator on a national average basis. Federal Communications Commission (2002b, 10). There are approximately eight broadcast stations per DMA on a national average basis. BIA Financial (2002). Each broadcast station must carry rights for one station. They can bargain for more, particularly in the digital space, but the cable operators control more stations there as well. In other words, if we foreclose 85% of the channels, the programmers will be able to compete to sell to the remaining 15% of the channels. Needless to say, this prospect does not excite independent programmers.

196. Moss (2001); Ainkin (2001).

197. The list of low-penetration channels offered by AT&T/Comcast and their experts reinforces these points AT&T (2002, 47) and Shelansi (2002, paras. 56-57).

198. Section 1 of the 1992 Act.

199. Time Warner Entertainment (2001).

200. Ordover (2002c, paras. 25, 36, 64-65, 89).

201. Consumer Federation of America (2002a, b).

202. Federal Communications Commission (1999a).

203. Viscusi, Vernon, and Harrington (2000, Chapter 5).

204. Joint Comments (2001, 25) offer the following on the size and speed with which subscribers must be gained:

"Comcast announced the launch of G4, a video game-oriented network 100% owned by Comcast… Comcast stated that cable systems serving seven million subscribers have already agreed to carry the network, and that the network expects to

be carried on systems serving another 2.5 to 5 million households by the end of the year… Comcast also indirectly confirmed that carriage by the largest cable MSOs is critical to the success of the network… Comcast, the principal investor in the project, said it could get the venture off the ground for less than $200 million if it could make the channel available to 20 million to 30 million cable subscribers."

205. "It became all or nothing, with lost of costs loaded upfront, he [Derek Baine, Senior Analyst, Paul Kagan Associates] explains. New nets were determined to debut with at least 10 million subs, and many were willing to pay anywhere from $7 to $10, or more, to get carriage.

'Fox put aside $300 million to buy 30 million subs,' Baine says. 'If you are going to make that huge of an investment, then you'll need to come up with some glitzy, high profile programming.'" Grillo (2001).

206. Messina (2001).

207. "Bravo, another Rainbow network, has increased its presence as an insertable channel on local cable systems by about 5 million this year to some 37 million subscribers, senior vice president of local ad sales John Duff said. In fall 1998, Bravo boosted its commercial load to three breaks per hour, after airing limited Public Broadcasting-style sponsorships. It began offering local avails in spring 1999. Duff projected that Bravo could hit 40 million insertable subscribers by year-end. Bravo's overall count reached 60.8 million subscribers, up nearly 12 million over a year ago. 'That growth will draw attention on Madison Avenue,' according to Bravo Networks Executive vice president of affiliate sales and marketing Gregg Hill. 'Things start to change when you get to 60 million,' Hill said. 'You get to critical mass.'" Forkan (2001).

208. Benkler (2000, 2001a, 2001b, 2002) and Lessig (2001, 23) use three layers and note that Berners-Lee (1999) identifies four layers, transmission, computer, software, and content.

209. Shapiro and Varian (1999, 9-15); Langlois (2001, 207) calls them system products:"Most cumulative technologies are in the nature of systems products, that is products that permit or require simultaneous functioning of a number of complementary components." Components are complementary where standards knit the layers of the platform together.

210. Hastings (2000); Hastings and Gilbert (2001).

211. Microsoft alleges that unbundling cannot be done. Half of the litigating states say it can be done, but requires a very extensive set of oversight remedies to ensure that it will be done.

212. Church and Gandal (1993, 241).

213. Arthur (1990, 92-93).

214. Katz and Shapiro (1985).

215. Schilling (1998, 275).

216. "Increased production brings additional benefits: producing more units means gaining more experience in the manufacturing process and achieving greater understanding of how to produce additional units even more cheaply. Moreover,

experience gained with one product make it easier to produce new products incorporating similar or related technologies." Arthur (1990, 92-93)

217. Church and Gandal (1993, 241) and Chien-fu and Shy (1990).

218. Shapiro, and Varian (1999).

219. Shapiro and Varian (1999, 22-23) address the issue of information production:

"Information is costly to produce but cheap to reproduce.

Once the first copy of an information good has been produced, most costs are sunk and cannot be recovered.

"Multiple copies can be produced at roughly constant per-unit costs.

"There are no natural capacity limits for additional copies.

"These cost characteristics of information goods have significant implications for competitive pricing strategy.

"The first and most important point is that markets for information will not, and *cannot,* look like textbook perfect competitive markets in which there are many suppliers offering similar products, each lacking the ability to influence prices."

Baker (2001, 32) describes the impact on media:

"Monopolistic competition theory applies to media goods. They, like utilities, characteristically manifest the "public good" attribute of having declining average costs over the relevant range of their supply curves due to a significant portion of the product's cost being its "first copy cost," with additional copies having a low to zero cost. There are a number of important attributes of monopolistic competition that are relevant for policy analysis and that distinguish it from the standard model of so-called pure competition, the standard model that underwrites the belief that a properly working market leads inexorably to the best result (given the existing distribution of market expressed preferences and the existing distribution of wealth). The first feature to note here is that in monopolistic competition often products prevail that do not have close, certainly not identical, substitutes. Second, this non-substitutability of the prevailing monopolistic product will allow reaping of potentially significant monopoly profits. . . . . .within this type of competition, products' uniqueness or monopoly status often permits considerable margin for product variation while still remaining profitable. The "potential" profit of the profit maximizing strategy can be realized and taken out as profit—which is what the corporate newspaper chains are accused of doing. However, the market itself does not require the profit maximizing response as it does in a model of pure competition. Rather the potential profit can instead be spent on indulging (or "subsidizing") the owners' choices about content or price."

220. Shapiro and Varian (1999, 28, 54, 87-89); Waldfogel (2001a, 2001b, 2001c); Waldfogel and Geogre (2000).

221. Benkler (2001b, 1).

222. Baasen (1996).

223. Gilder (2000).

224. Gaines (1998, 30, 31).

225. Arthur (1990, 95).

226. Gaines (1998, 23).

227. Katz and Shapiro (1999).

228. Owen (1999, 29).

229. Owen (1999, 151).

230. Langlois (2001, 206).

231. Castells (2001, 28). The telephone is an industrial age communications platform with significant network effects, but it does not exhibit the feedback loops or virtuous circles of information-age communications platforms.

232. Benkler (2001b, 23).

233. Whitman (1999, Chapter 2).

234. Castells (1996); Longworth (1998).

235. Evans and Wurster (2000, 17).

236. Langlois (2001, 207) offers this as a general proposition of system products:

"[I]nnovation normally proceeds fastest when a large number of distinct participants are trying multiple approaches simultaneously. Because of the complexity that system products normally exhibit, and because of the qualitative uncertainty inherent in the process of innovation, multiple approaches and numerous participants provide greater genetic variety than would a simple innovator (or small number of innovators), which leads to more rapid trial-and-error learning."

237. Bar, Francois (1999).

238. Lemley and Lessig (2001). The Lemley and Lessig piece is a direct response to Speta (1999, 2000) and Weiser (2000), which were responses to Lemley and Lessig (1999).

239. Bar (1999). NorthNet, Inc. (2000).

"Even if the Commission is not ready to embrace the proposition that the cable "pipeline" is a telecommunication facility, the essential point is that policy of open telecommunications networks, including the mandate for nondiscriminatory interconnection pursuant to ONA/CEI is what has largely allowed the "narrowband" Internet to be as vibrant and competitive as it is today. It is hard to see how closed cable networks can obtain the same result in a broadband environment." Comstock and Butler (2000)

240. Lessig (2001, 148).

241. Lemley and Lessig (2001, 7).

242. Lemley and Lessig (1999, 20) point out aspects of the convergence, at least by analogy:

"The principle of End-to-End is not unique to computer networks. It has important analogs in American constitutional law and in other legal contexts. Vis-à-vis the states, for example, the dormant commerce clause imposes an End-to-End design on the flow of commerce: No state is to exercise a control over the flow of commerce between states; and the kind of control that a state may exercise over commerce flowing into that state is severely limited. The "network" of interstate commerce is to be influenced at its ends — by the consumer and producer — and not by intermediary

actors (states) who might interfere with this flow for their own political purposes. Vis-à-vis transportation generally, End-to-End is also how the principle of common carriage works. The carrier is not to exercise power to discriminate in the carriage. So long as the toll is paid, it must accept the carriage that it is offered. In both contexts, the aim is to keep the transportation layer of intercourse simple, so as to enable the multiplication of applications at the end."

243. Lessig (1999, 166-167).

244. Lessig (1999, 183).

245. Federal Communications Commission (2000, para 36).

246. Entman (2002, 5); Powell (2000).

247. "The only argument we have been able to find suggesting that eliminating ISP competition might actually be desirable is that eliminating competition gives cable companies supercompetitive revenues that in turn will encourage them to deploy broadband Internet access more quickly… cable companies will deploy broadband access and open it to competition, but only if they are 'able to charge unaffiliated ISPs and other content providers the full monopoly price for interconnection and access…' "[This] assumes that no one will buy broadband cable services initially unless the cable company itself provides high-bandwidth content. And the cable companies will have no incentive to invest in developing broadband infrastructure unless they can reap monopoly profits from that endeavor... In effect, the argument is that we must expand the cable companies' monopoly over the wires into competitive markets in order to give them an incentive to implement broadband access.

"The need for investment incentives is a fair point. But it is worth noting at the outset that this 'monopoly incentives' argument contradicts every other argument made by opponents of ISP competition. For cable companies to reap monopoly returns from prices charged to ISPs means, among other things, that the cable companies will not voluntarily open their lines to ISP competition. If cable companies are collecting monopoly profits from ISPs, it means that facilities-based competition by other forms of broadband Internet access has not served to restrict cable's power over price. It means that broadband cable service is a monopoly, and therefore within the jurisdiction of the antitrust laws. And it assumes that, contrary to the Chicago-school theory of tying, cable companies will make more money from bundling ISP service with the provision of access than they would merely by charging an unregulated price for access alone." Lemley and Lessig (2001, 17).

248. Scherer and Ross (1990, 31).

249. Liebowitz and Margolis (2001) use the term serial monopoly, as do a bevy of other Microsoft-supported experts. Cooper, Antitrust, points out that there is no serial in Microsoft's monopolies. Rather, Microsoft conquers market after market using leverage and anticompetitive tactics, never relinquishing any of its previous monopolies.

250. Cooper (2001a, 2001b).

251. Scherer and Ross (1990, 660).

252. "In the case of the personal computer, the rise of a single dominant – but largely open and nonproprietary – standard focused innovation in modular directions. It is the ensuing rapid improvement in components, including not only the chips but various

peripheral devices like hard disks and modems, as well as the proliferation of applications software, that has led to the rapid fall in the quality-adjusted price of the total personal computer system." Langlois (2001, 215).

253. Rubinfeld and Hoven (2001, 75-76).

254. "But in the case of a broad patent – or a broad standard – the remuneration that monopoly rights confer far outstrip the risk-discounted ex ante costs of innovation. Moreover, in the case of a broad patent or standard, the ability of the patent holder to block future innovation will do more to diminish the incentive for technological progress than will any weakening of intellectual property rights…

"Clearly, the narrower the scope of a technical standard, the more temporary – the more 'Schumpeterian' – the rents are likely to be." Langlois (2001, 222).

255. Langlois (2001).

256. Farrell and Garth Saloner (1986, 940, 948-5); Katz and Shapiro (1992, 55, 73); Makadok (1996, 683, 685); Witt (1997, 753, 768-769); Mansell (1997, 969, 970).

257. Schilling (276).

258. Sheremata (1998, 547, 573-574); Woroch (1998).

259. See Sheremata (1998, 560); Ferguson (1999, 307); Lemley and McGowan (1998, 732).

260. Farrell and Katz (1998, 643-645, 650); Sheremata (1997).

261. Makadok (1998, 693).

262. Yoffie (1997, 26); Dansby and Conrad (1984).

263. Matutes and Regibeau (1992).

264. Guiltnan (1987); Matutes and Regibeau (1992); *Compatibility and Bundling of Complementary Goods in a Duopoly,* 50 J. INDUS. ECON. 46 (1992); Telser (1979); Schmalensee (1984).

265. Choi (1994, 171-173).

266. Ellison and Fudenberg (2000); Fudenberg and Tirole (1998).

267. Ferguson (1999, 309-310).

268. Ferguson (1999, 176-177); Moorthy (1984, 303); Thum (1997, 280, 285-286).

269. "The owner of a dominant standard may thus want to manipulate the standard in ways that close off the possibilities for a competitor to achieve compatibility. This has a tendency to retard the generational advance of the system." Langlois (2001, 221).

270. Langlois (2001, 195-202); Katz and Shapiro (1999, 70-80); Ordover and Wilig (1999, 871-881); Salop (1999).

271. Clark and Blumenthal (2001); Reed, Saltzer and Clark (1998).

272. Lemley and Lessig (2001).

273. "[M]any forces are pushing to change the Internet today: a greater call (from various voices) for stable and reliable operation, even though we can place less trust in

the individual users of the network; new sorts of sophisticated applications driven by new visions of consumer-oriented experiences; the motivation of ISPs to develop into enclaves containing enhanced service to gain competitive advantage; the proliferation of third parties with a range of interests in what the users are actually doing; the proliferation of less sophisticated users for whom "innovation" is a mixed blessing; and new forms of computing and communications that call for new software structures. All of these forces have the consequence of increased complexity, of increased structure in the design of the Internet, and a loss of control by the user. Whether one chooses to see these trends as a natural part of the growing up of the Internet or the fencing of the West, they are happening. It is not possible to turn back the clock to regain the circumstances of the early Internet: real changes underscore real questions about the durability of the Internet's design principles and assumptions." Clark and Blumenthal (2001, 18).

274. "While there has been concern expressed in some quarters about increasing involvement of governments, the ISP may present the greatest challenge to the traditional structure of the Internet. The ISPs implement the core of the network and any enhancement or restriction that the ISP implements is likely to appear as new mechanism in the core of the network. As gateways to their customers they are an inherent focal point for others interested in what their customers do, too." Clark and Blumenthal (2001, 23).

275. Cooper (2000).

276. The instant messaging dispute between AOL and other ISPs has been cast by AOL as one involving privacy and security, but a *Washington Post* story revealed that its central threat to Prodigy and others who had "hacked" into the instant message space was to claim economic harm.

277. Cooper (1999, 2000b); Consumers Union (2000); NorthNet, Inc. (2000).

278. Cooper (2000).

279. AT&T Corp. v. City of Portland (2000).

280. Federal Communications Commission (2000d, 2000e).

281. "The question is obvious. The successful policy trend of the past thirty years has been to force competition and assure open access to the incumbent infrastructure. Why, now, reverse that successful policy?
" As cable moves from 'broadcast' to 'broadband,' cable infrastructure becomes a key element in digital video, data, and voice communications, and all the issues about network openness return to the forefront. Unfortunately, in a misreading of its own history, the FCC may abandon its successful policy just as a new generation of services—spurred by mass-deployment of broadband Internet services— are defining the future of networking and the electronic economy. After a series of courageous decisions in the 1990s to hold its course on data networking, even after the economic stakes grew bigger, the FCC is now starting to confuse the instruments of its successful policy with the logic of its strategy. That strategy, again, was to maintain network openness by making key network components available to all, on cost-effective terms, so as to allow competition and innovation." Bar, et al (1999).

282. "The FCC allowed specialized providers of data services, including Internet Service Providers (ISPs) and their customers, access to raw network transmission capacity through leased lines on cost-effective terms. Regulatory policy forced open

access to networks whose monopoly owners tried to keep closed. The resulting competition allowed the FCC to free the service providers from detailed regulation that would have kept them from using the full capabilities of the network in the most open and free manner.

"Thanks to the enduring FCC policy of openness and competition, specialized networks and their users could unleash the Internet revolution. Open network policy assured the widest possible user choice and the greatest opportunities for users to interact with the myriad of emerging new entrants in all segments of the network. To be sure, the FCC strategy emerged haltingly but its direction never changed. Indeed, the Commission consistently backed cost-based access to the network (initially through leased lines and later through unbundled network elements). The de facto result of this policy, and of more conscious choices symbolized by the *Computer III* policies, was to prevent phone company monopolies from dictating the architecture of new data-related services. The Commission thus supported competition and innovation, time and again, by unfailingly keeping the critical network infrastructure open to new architectures and available to new services on cost-effective terms. The instruments of FCC policy were to make leased lines (and, lately, network elements) available on cost-oriented terms and to forebear from regulating Internet and other data services. This steady policy set in motion, and sustained, a virtuous cycle of cumulative innovation, new services, infrastructure development, increasing network usage with evident economic benefits for the U.S. economy." Bar, et al (1999).

283. Federal Trade Commission (2000). The chairman clearly noted the difference between commercial access and open access in his remarks and Commissioner Thompson (2000) expressed his concern in a written statement.

284. Comcast (2002).

285. National Cable and Telecommunications Association (2001, 52), citing U.S. General Accounting Office (2000).

286. National Cable and Telecommunications Association (2001, 53).

287. National Cable and Telecommunications Association (2001, 53).

288. Comcast (2001, 31), emphasis in the original.

289. National Cable and Telecommunications Association (2001, 53).

290. Weiser (2001, 30).

291. Lemley and Lessig (2000).

292. "The experts and industry officials we interviewed differed over whether a reduction in ISP choice-if it occurs-constitutes a public policy concern. Some experts felt that a highly competitive ISP market was not very important. In particular, several of these experts noted that the ISP market itself was an artifact of telephone regulations-that is, no specific policy was undertaken to promote the ISP market per se, but the market developed because of the particular manner in which the telephone network was structured and regulated. Many of these experts stated that a reduction of consumer choice at the ISP layer is not a concern as long as there is adequate competition among companies providing physical transport to the Internet. Others, however, expressed concern about potential concentration in the ISP market and suggested that consumers will be better served by having choices among both Internet transport providers and

multiple ISPs. Several experts we spoke with also stated that ISP choice is important, in part, because of the changing nature of that industry. In particular, these experts noted that many ISPs are making a transition from providing only a simple "on-ramp" to the Internet to providing content and applications. A potential ramification of this transition is greater control by ISPs over what content is prominently displayed to consumers. Therefore, greater consumer choice among these "content aggregators" is seen by some as important because it can enhance consumers' access to varied content. Thus, these experts contend, if consumers dislike the content choices of particular ISPs, it is important that they have the option of "voting with their feet" by switching to any of several other ISPs that may provide alternative content choices." U.S. General Accounting Office (2000).

293. Hausman, Sidak and Singer (2001, 134).

294. AT&T Canada Long Distance Services (1997). The AT&T policy on open access after it became a cable company was first offered in AT&T (1999). Virtually no commercial activity took place as a result of the letter, which was roundly criticized. Subsequently their policy was described in Goodman (2000).

295. AT&T (1998, 2000).

296. America Online Inc (1999a). At the federal level, AOL's most explicit analysis of the need for open access can be found in (1999b).

297. Hausman, Sidak, and Singer (2001).

298. Hayes, Jayaratne, Katz (1999, 1); citing Katz and Salop (1998).

299. Bernstein and McKinsey and Company (2000); Merrill Lynch (2000); Paine Webber (2000); Goldman Sachs (2000).

300. Earthlink, the first ISP to enter into negotiations with cable owners for access, has essentially given up and is vigorously seeking an open access obligation, see Comstock, Earl (2000); NorthNet. Inc. (1999).

301. American Cable Association (2001).

302. Langlois (2001).

303. Cooper (2001a).

304. "Broadband access platforms are the anchor points for much of the value at stake and vehicles for accessing new revenue streams.

"However, the current set of alternatives for reaching customers with broadband connections is inadequate. At least for the time being, cable is closed, meaning that much of the value is, in effect, ceded to the platform rather than captured by the content/ applications providers…

"Furthermore, access is currently a bottleneck, and access winners have the potential to leverage their privilege positioned to ensure long-term value creation." Bernstein and McKinsey and Company (2000, 18-21).

305. "In the opinion of AT&T Canada LDS, the supply conditions in broadband access markets are extremely limited. There are significant barriers to entry in these markets including lengthy construction periods, high investment requirements and sunk costs, extensive licensing approval requirements (including the requirements to obtain

municipal rights of way)… Under these circumstances, the ability for new entrants or existing facilities-based service providers to respond to nontransitory price increases would be significantly limited, not to mention severely protracted." AT&T (1997, 7, 12).

306. AOL, FCC (1999, 13).

307. Hausman, Sidak, and Singer (2001, 135).

308. Hausman , Sidak, and Singer (2001, 156).

309. Hausman, Sidak, and Singer (2001, 135).

310. "Each of these pronouncements made by regulators, policy makers and individual members of the industry reflects the strongly held view that access to the underlying facilities is not only necessary because of the bottleneck nature of the facilities in question, but also because it is critical for the development of competition in the provision of broadband services. AT&T Canada shares this view and considers the control exercised by broadcast carriers over these essential inputs is an important factor contributing to the dominance of broadcast carriers in the market for access services." AT&T (1997, 12).

311. "By contrast, the telephone companies have just begun to establish a presence in the broadband access market and it will likely take a number of years before they have extensive networks in place. This lack of significant market share, however, is overshadowed by their monopoly position in the provision of local telephony services.

In any event, even if it could be argued that the telephone companies are not dominant in the market for broadband access services because they only occupy a small share of the market, there are a number of compelling reasons to suggest that measures of market share are not overly helpful when assessing the dominance of telecom-munications carriers in the access market." AT&T (1997, 9).

312. AT&T (1997, 24).

313. "Because there are and will be many more providers of content in the broadband market than there are providers of carriage, there always will be more service providers than access providers in the market. Indeed, even if all of the access providers in the market integrated themselves vertically with as many service providers as practically feasible, there would still be a number of service providers remaining which will require access to the underlying broadband facilities of broadcast carriers." AT&T (1997, 1).

314. AT&T (2002, 7).

315. Excite@Home (2000).

316. America Online Inc. (1999b, 14). Another indication that the availability of alternative facilities does not eliminate the need for open access policy can be found in AOL's conclusion that the policy should apply to both business and residential customers. If ever there was a segment in which the presence of two facilities competing might alleviate the need for open access requirement, the business segment is it. AOL rejected the idea. *Id*. at 1-2.

317. "To the extent that standards are developed for interfacing with broadband access services, the carriers who provide these services should not be permitted to implement any non-standard, proprietary interfaces, as this would be contrary to the development

of an open network of networks. In addition, any new network or operational interface that is implemented by a broadband access provider should be made available on a non-discriminatory basis." AT&T (1997, 23).

318. The Federal Trade Commission's (1997) enumeration of the ways in which the Time Warner/Turner/TCI merger was a threat to lessen competition are instructive for both the cable TV and the broadband Internet markets. The vertical integration and horizontal concentration would increase the incentive and ability to engage in both conduit discrimination and content discrimination.

319. Hausman, Sidak and Singer (2001, 159).

320. Hausman, Sidak and Singer (2001, 159).

321. "This strategy entails setting the unbundled price of the basic local service and the price of the incremental cost of supplying the DSL service alone. In this scenario, the direct effect of the conduct is to squeeze out the competing suppliers of the enhanced service that might otherwise serve as attractive complements to the basic services offered by the incumbent local exchange carrier (LEC).

"Allowing incumbent LECs to bundle basic services with enhanced service provided over bottleneck facilities could also better enable them to squeeze out efficient potential competitors through non-price means – e.g. by offering lower quality monopoly bottleneck service to customers of their competitors, and by providing quicker or more complete disclosure of their network interface specifications and protocols to favored venders. That is so because bundling potentially 'covers up' discrimination." AT&T (2000).

322. "The dominant and vertically integrated position of cable broadcast carriers requires a number of safeguards to protect against anticompetitive behavior. These carriers have considerable advantages in the market, particularly with respect to their ability to make use of their underlying network facilities for the delivery of new services. To grant these carriers unconditional forbearance would provide them with the opportunity to leverage their existing networks to the detriment of other potential service providers. In particular, unconditional forbearance of the broadband access services provided by cable broadcast carriers would create both the incentive and opportunity for these carriers to lessen competition and choice in the provision of broadband service that could be made available to the end customer.

"Telephone companies also have sources of market power that warrant maintaining safeguards against anticompetitive behavior. For example, telephone companies are still overwhelmingly dominant in the local telephon market, and until this dominance is diminished, it would not be appropriate to forebear unconditionally from rate regulation of broadband access services." AT&T (1997, 15).

323. America Online Inc. (1999b, 8).

324. Hayes, Jayaratne, Katz (1999); Katz and Salop (1998).

325. Hausman, Sidak and Singer (2001, 160-161).

326. "Thus, the real game in standards is to reach critical mass for the platform without giving up too much control. This requires a careful balance between openness (to attract others to your platform) and control over standards development (to ensure an advantaged value-capture position). Of course, the lessons of Microsoft, Cisco, and

others are not lost on market participants, and these days no player will willingly cede a major standards-based advantage to a competitor. Therefore, in emerging sectors such as broadband, creating a standards-based edge will likely require an ongoing structural advantage, whether via regulatory discontinuities, incumbent status, or the ability to influence customer behavior." Bernstein and Mckinsey and Company (2000, 57).

327. Northnet, Inc. (1999).

328. Time Warner's Term Sheet (1999) and AT&T's public statements about how it will negotiate commercial access after its technical trial give a clear picture of the threat to dynamic innovation on the Internet. The companies' own access policies reveal the abuse of market power and network control that stand to stifle innovation on the Internet. Under the imposed conditions, the commercial space available for unaffiliated and smaller ISPs (where much innovation takes place) is sparse and ever shrinking.

329. "To the extent ISP wishes to offer any functionality as part of the Service which: (a) is outside the scope of the Network Architecture; (b) requires an Operator acquire equipment or software or implement a change in the way the Operator processes, TWC shall have the right to approve such new functionality, provided however that in the event TWC approves such functionality, ISP will be obligated to reimburse for TWC its direct, out-of-pocket costs in implementing such new functionality.

Angwin (2002) leaves no doubt that the spirit and letter of the original term sheet remains the operative approach to commercial access at AOL Time Warner." Time Warner Term Sheet (1999)

330. "Founder Joe Pezzillo worries that the competitive gap could widen as broadband brings new business models.

"He envisions AT&T making deals with major music labels to deliver its own Internet radio, with AT&T providing the fastest connections to its partners and slower connections to sites like his. 'Someone is not going to wait for our page to load when they can get a competitor's page instantly,' Pezzillo says.

"AT&T says it has yet to formulate business models with partners, but the software the company has designed for the Boulder trial – demonstrated at its headquarters in Englewood, Colo. Last week – clearly includes a menu that will allow customers to link directly to its partners. Company officials acknowledge that AT&T's network already has the ability to prioritize the flow of traffic just as Pezzillo fears.

'We could turn the switches in a matter of days to be able to accommodate that kind of environment,' says Patrick McGrew, an AT&T manager working on the technical details of the Boulder trial.

"Though the Boulder trial is focused on technical issues alone, AT&T will study the way customers navigate the system as it negotiates with ISPs seeking to use its network…'" Goodman (2000).

331. "[A] cable broadband provider will engage in conduit discrimination if the gain from additional access revenues from broadband users offsets the loss in content revenues from narrower distribution…

"To capture the gains from such discrimination, the vertically integrated cable provider must have a cable footprint in which to distribute its broadband portal service, either through direct ownership or through an arrangement to share the benefits of foreclosure with other cable providers." Hausman, Sidak and Singer (2001, 159).

332. Competitive Broadband Coalition (2001, 11).

333. "It is possible that at some point in the future new technologies will emerge, or existing technologies will be refined, in such a way that they will compete effectively with cable-based Internet services… within the relevant two-year time horizon, neither DSL nor satellite-based Internet service will be able to offer close substitutes for cable-based Internet service. Hence, neither will be able to provide the price-disciplining constraint needed to protect consumer welfare." Hausman, Sidak, Singer (2001, 149).

334. "[I]f the incumbents were exempt from regulation merely because they are using their bottleneck facilities to provide advanced service, they could simply migrate captive local telephony customers to DSL before cable telephony or any other alternative to these monopoly services is available. Then the LECs could exploit their telephony monopoly over local customers without regulation, by means of pricing of local service to end-users as well as pricing of access to long distance providers, all under the rubric of "advanced services" offerings.

"As both the Commission and Congress have recognized, high-speed data offerings constitute a crucial element of the market for telecommunications services, and, because of their importance, the manner in which they are deployed will also affect the markets for traditional telecommunications. Many providers have recognized the growing consumer interest in obtaining "bundles" of services from a single provider. Certainly SBC, with its $6 billion commitment to "Project Pronto" has done so. AT&T is prepared to compete, on the merits, to offer, "one-stop shopping" solutions. Competition, however, cannot survive if only a single carrier is capable of providing consumers with a full package of local, long distance, and DSL services." AT&T (2000, 9-12).

335. America Online Inc. (1999b, 11).

336. America Online Inc. (1999b, 9-10).

337. "If the technology market has a communications aspect to it, moreover, in which information must be shared (spreadsheets, instant messaging, enterprise software applications), the network effect is even more powerful.´ Merrill Lynch (2000, 37, 38).

"Thus, if the MSOs can execute as they begin to deploy cable modem services in upgraded areas, they have a significant opportunity to seize many of the most attractive customers in the coming broadband land grab. These customers are important both because they represent a disproportionate share of the value and because they are bell weathers for mass-market users." Bernstein and McKinsey and Company (2000, 26).

338. "Due to the nature of network industries in general, the early leader in any broadband Internet access may enjoy a "lock-in" of customers and content providers – that is, given the high switching costs for consumers associated with changing broadband provider (for example, the cost of a DSL modem and installation costs), an existing customer would be less sensitive to an increase in price than would a prospective customer." Hausman, Sidak and Singer (2001, 164).

339. U.S. Department of Justice v.. AT&T Corp. and MediaOne Group, Inc. (2000).

340. "AT&T Canada LDS notes that narrowband access facilities are not an adequate service substitute for broadband access facilities. The low bandwidth associated with these facilities can substantially degrade the quality of service that is provided to the end customer to the point where transmission reception of services is no longer possible." AT&T (1997, 12).

341. Hausman, Sidak, and Singer (2001, 135-148).

342. Bernstein and McKinsey and Company (2000, 8).

343. "AOL Time Warner is uniquely positioned against its competitors from both technology and media perspectives to make the interactive opportunity a reality. This multiplatform scale is particularly important from a pricing perspective, since it will permit the new company to offer more compelling and cost effective pricing bundles and options than its competitors. Furthermore, AOL Time Warner will benefit from a wider global footprint than its competitors…

"We believe the real value by consumers en masse will be not in the "broadband connection" per se, but rather an attractively packaged, priced, and easy-to-use service that will bundle broadband content as an integral part of the service." Goldman Sachs (2000, 10-17).

344. AT&T (1997, 12).

345. Committee on Broadband Last Mile Technology (2002, 21).

346. Ibid., (2002, 29-31).

347. Committee on Broadband Last Mile Technology (2002, 188).

348. Federal Communications Commission (2002c, Table 9) .

349. Bazinet (2000, Figure 36).

350. "Excite@Home's 35% cut of subscriber fees to operate the service equaled roughly $13 to $14 monthly per subscriber. In contrast, Burke said Comcast could run the service for $7 to $8 per month." Brown (2001).

351. Stern (2002).

352. Hazlett and Bittlingmayer (2001 3-4).

353. Spangler (2002); Braunstein (2001); Boyd (2001); Spring (2001); Ames (2002).

354. Hazlett and Bittlingmayer (2001, 17).

355. Federal Communications Commission (2002, 29, 2001c, 31, 2000, 33).

356. All of the industry experts incorrectly equate the simple economics of program production with the political economy of market structure. For example, Rosston and Shelanski (2002, 6) argue "the incentive of cable operators to act monopsonistically is further weakened by the fact that programs are non-rivalrous goods. One operator's distribution of a program does not interfere with the ability of another operator to disseminate the same program."

357. Consumer Federation of America, et al (2002a, 102-105, 124-139). Consumer Federation of America et al (2002b, 46-56).

358. Consumer Federation of America, et al (2002a, 102-105, 124-139). Consumer Federation of America et al (2002b, 46-56).

359. Hausman, Sidak and Singer (2002, 156); American Cable Association (2002, 13) provides the calculation for cable operators:

"The major MSOs will be the clear winners in these transactions. MSOs granted exclusive distribution rights will have an opportunity to attract DBS subscribers with

exclusive programming, resulting in increased subscriber revenues (a minimum of $40-$50 per subscriber) and increased system values (at least $3,500-$5,000 per subscriber).

Where do ACA members fit into these transactions? Nowhere. ACA members operate locally, not regionally or nationally. In situations involving regional or national exclusive distribution rights, there is little incentive to carve out exceptions for smaller cable systems. For each small system subscriber lost under exclusivity, the vertically integrated program provider will likely lose revenue between $0.10 and $0.75 per month, depending on the service. In contrast, for each former DBS subscriber gained through regional or national exclusive program offerings, the MSO with exclusive distribution rights will gain all monthly revenue from that subscriber, plus increased system value. In economic terms, an external cost of this gain will be the cost to small cable companies and consumers of reduced program diversity."

360. "Hence, a cable broadband provider will engage in conduit discrimination if the gain for additional access revenues from broadband users offsets the loss in content revenues form narrower distribution.

"What determines whether conduit discrimination will be profitable? Simply put, if a cable broadband transport provider that controls particular content only has a small fraction of the national cable broadband transport market, then that provider would have little incentive to discriminate against rival broadband transport providers *outside of its cable footprint.* The intuition is straightforward: out-of-franchise conduit discrimination would inflict a loss on the cable provider's content division, while out of region cable providers would be the primary beneficiaries of harm done to non-cable competitors." Rubinfeld and Singer (2001, 567).

361. Hausman, Sidak and Singer (2001, 156).

362. Waterman and Weiss (1997, 8) as quoted on p. 64 above.

363. Cooper (1999).

364. Consumers Union (2000, 34).

365. Cleland (2002).

366. Mohney (2002); Baumgartner (2002).

367. Kuhl (2002) noting that the time horizon is at least five years and perhaps several decades.

368. Such as ITV operating systems and DOCSIS (Data Over Cable Service Interface Specification), a standard that allows cable modems involved in high-speed data distribution to operate).

369. Consumer Federation of America (1998).

370. Federal Communications Commission (2002b, 13); Comcast (2002, 18-23):

System Capacity % of Systems Offering	ATT	Industry Avg.
Upgraded to 750 MHz	59	63
Digital programming	~76	78
Internet Access	61	71

371. Federal Communications Commission (2002b, 29).

372. Federal Communications Commission (2001c, 31); Federal Communications Commission (2000, 33).

373. Federal Communications Commission (2002d).

374. Under the rules adopted to implement section 617 of the Communications Act, the LFA has the right to request information that is reasonably necessary to determine the qualifications of the proposed transferee not only with respect to financial, legal, and technical questions, but also with respect to other conditions that affect its ability to meet its obligations under the franchise agreement or that affect competition in the franchise territory. Notwithstanding *Charter v. City of Santa Cruz*, LFAs have the authority to impose reasonable conditions that respond to circumstances, such as increased financial risk and likelihood of anticompetitive behavior, that are associated with the transfer.

375. Committee on Broadband Last Mile Technology (2002, 206-215).

376. Storer v. Montgomery County.

377. *Prime Communications, Inc. v. AT&T Corporation* (2000). United States District Court for the District of Massachusetts, Civil Action No. 01-10805MLW. This incident of using control over the cable system against advertising is not isolated, Boldebook (2002).

378. Cambridge (2002).

379. Of course, having gained a dominant position through competition, a firm can later violate the antitrust laws by illegally seeking to defend or extend its monopoly, most recently demonstrated by the case of Microsoft v. the United States, et al., which blends traditional market structure analysis and new economy concepts. See Cooper (2001a).

380. Comcast (2002, 66).

381. Comcast (2002, 66).

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