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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In The Matter of	)	
	)	
Competition, Rate Deregulation and the Commission's Policies Relating to the Provision of Cable Television Service	)	**MM Docket No. 89-600**

Comment of the Staff of
the Bureau of Economics and the San Francisco Regional Office
of the Federal Trade Commission*

April 20, 1990

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* This comment represents the views of the staff of the Bureau of Economics and the San Francisco Regional Office of the Federal Trade Commission. They are not necessarily the views of the Commission or any individual Commissioner. Inquiries regarding this comment should be directed to Michael G. Vita (202-326-3493) of the FTC's Bureau of Economics or John Wiegand (415-744-7920) of the FTC's San Francisco Regional Office.

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Executive Summary

The comment of the staffs of the FTC's Bureau of Economics and the San Francisco Regional Office addresses a number of issues raised by the FCC's Notice of Inquiry (NOI) on competition in the provision of cable television services. The comment addresses six issues relating to economic efficiency, competition, and the enforcement of the antitrust laws, and does not discuss other policy considerations raised in the NOI or in statements submitted by respondents to the NOI.

First, the comment discusses the desirability of permitting direct competition between cable television systems, and the likelihood that such competition will occur. The FTC staff believes that under most circumstances such competition should be permitted. Restricting entry into cable markets can be justified only when the local cable market is a "nonsustainable" natural monopoly. Moreover, fulfilling this condition does not necessarily ensure that consumers' interests would be served by insulating an incumbent from the threat of entry. Though the FTC staff does not claim that entry (or the threat of entry) would invariably impose an effective competitive constraint upon the market power of cable systems, the interests of consumers would seldom be served by erecting statutory or regulatory barriers to entry.

Second, the comment presents a framework for examining the appropriate product market for cable television and its competition. While the staff cannot provide a conclusive product market definition for all geographic markets, we believe that the 1984 Department of Justice *Merger Guidelines* and the FTC *Merger Statement* articulate a useful method for addressing this issue. The comment provides an illustration of how this method might be applied to the analysis of cable television market power. The comment also explains how recent developments in applied economic analysis might be used to quantify empirically the extent of any existing market power.

Third, the comment discusses available regulatory options if a decision is made to re-regulate cable systems. There are three general alternatives. The first is traditional "rate-of-return" regulation; the second is "price-cap regulation"; and the third is "franchise bidding." The potential and actual problems associated with rate-of-return regulation have been well-documented. There are theoretical and empirical bases for preferring price cap to rate-of-return regulation. However, the regulatory environment that existed prior to the enactment of the Cable Act, as well as that which exists today, permits and encourages the reconfiguration of cable service tiers so as to avoid rate controls on basic service. If it is determined that some form of explicit rate regulation is necessary to constrain the exercise of market power by cable systems, effective regulation would seemingly require that regulatory authorities be empowered either to control the rates charged for *all* service tiers, or to impose "minimum quality" controls along with rate controls (*e.g.*, stipulate that "basic" service offer certain specified channels). Absent such regulatory authority, it is unclear that cable rate regulation could effectively constrain the exercise of cable systems' market power should such power be found to exist.

Fourth, the comment discusses "trafficking" (i.e., the sale and rapid resale) in cable systems. The staff believes that "antitrafficking" regulations are unlikely to help, and may hurt, consumers. When a cable system changes ownership, the new owner may be as efficient, less efficient, or more efficient than the old owner. If equally efficient, the new owner's profit-maximizing levels of price, output, and quality will not change. If less efficient, the buyer will unlikely earn a competitive return on the investment during its ownership tenure, and will likely suffer a capital loss upon resale if its low quality/high price causes a loss of goodwill. Transfers of cable systems from more to less efficient owners will, therefore, tend to be deterred by profit incentives, and thus may not require special regulations.

Antitrafficking regulations could, moreover, be counterproductive. To the extent that such regulations delay the transfer of cable systems from less to more efficient operators, consumer welfare will be reduced. Antitrafficking regulations could also deter entry into cable markets if they make it harder to recoup investment costs through exit (*e.g.*, by selling to a more efficient buyer) if entry proves unprofitable.

Fifth, the comment reviews the theoretical and empirical literature on vertical integration and control, especially as it relates to cable systems. Currently there is considerable debate over the extent to which cable systems and programmers use vertical controls, as well as over the implications of these controls for competition and consumer welfare. It appears that some programmers, whether vertically integrated into cable distribution or not, have chosen to restrict the carriage of their signals to certain selected distributors. Similarly, certain cable systems that are integrated into programming appear to exhibit a preference for their own programs. While these policies may harm particular programmers and particular distributors, it does not necessarily follow that competition or consumer welfare is harmed. For example, vertical integration and other vertical controls conceivably may improve efficiency if they preserve or increase programmers' incentives to increase output. Vertical controls can help accomplish this in some circumstances by (1) facilitating the efficient marketing of programming services, (2) preventing the erosion of program value through poor signal quality, (3) preventing the piracy of program signals, and (4) eliminating "successive mark-up" problems. Vertical integration and other vertical controls are not necessarily procompetitive, however, and there are circumstances under which vertical controls could be used to erect barriers to entry and to evade regulation.

Neither the theoretical literature on vertical integration and control, nor the empirical studies of vertical integration between cable systems and

programmers, yields unequivocal conclusions about the net competitive impact of vertical controls on programming and cable markets. Therefore, one cannot infer from available information whether consumers' interests would be served by creating regulatory or statutory standards that are hostile to the continued use of vertical controls.

The final section of the comment observes that cable systems and program suppliers are subject to the provisions of the existing antitrust laws, and that both the Sherman Act and the Clayton Act have been used to adjudicate the legality of a variety of practices, including mergers between competing cable systems, and the misuse of the franchising process to impede entry by overbuilders.

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**Comment of the Staff of
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of the Federal Trade Commission[1]**

April 20, 1990

I. Introduction

The staff of the Federal Trade Commission appreciates this opportunity to submit a comment in response to the Federal Communication Commission's Notice of Inquiry[2] concerning competition, rate deregulation and the FCC's policies relating to the provision of cable television service. The Notice of Inquiry (NOI) initiates the FCC's comprehensive inquiry into the effects of the Cable Communication Policy Act of 1984[3] on the video services marketplace. Our comment addresses issues relating only to economic efficiency, competition, and the enforcement of the antitrust laws. It does not discuss other policy considerations raised in the Notice.

This comment addresses six of the issues raised in the NOI. First, Section III discusses a number of issues relating to the likelihood and desirability of direct competition between cable television systems. Second, Section IV presents

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[2] 55 Fed. Reg. 1484-86 (Jan. 16, 1990).

[3] 47 U.S.C. §§ 521 - 559.

a framework for determining the appropriate product market for analyzing cable television and its competition. Third, Section V discusses various regulatory options should a decision be made to re-regulate cable systems. Fourth, Section VI discusses the issue of "trafficking" in cable systems. Section VII reviews the theoretical and empirical literature on vertical integration, especially as it relates to cable. Section VIII discusses the applicability of the antitrust laws to cable television.

II. Expertise of the Staff of the Federal Trade Commission

The FTC is an independent regulatory agency responsible for maintaining competition and safeguarding the interests of consumers.[4] In response to requests by federal, state, and local government bodies, the staff of the FTC often analyzes regulatory or legislative proposals that may affect competition or the efficiency of the economy. In the course of this work, as well as in antitrust and consumer protection research, nonpublic investigations, and litigation, the staff applies established principles and recent developments in economic theory to competition and consumer protection issues, including efficiency rationales for rate and entry regulation.[5]

The FTC staff previously has commented on various issues before the FCC, including: (1) elimination of the prohibition on common ownership of cable television systems and national television networks;[6] (2) rules relating to whether cable television systems "must carry" television broadcast signals;[7] and (3) the FCC requirement that broadcast licenses be held for at least three years before being transferred.[8]

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[4] 15 U.S.C. §§ 41 - 59.

[5] *See, e.g.*, Mathios and Rogers, *The Impact of State Price and Entry Regulation on Intrastate Long Distance Telephone Rates*, Bureau of Economics Staff Report to the Federal Trade Commission, November 1988.

[6] CT Docket No. 82-434.

[7] MM Docket No. 85-349.

[8] BC Docket No. 81-897.

III. Restrictions on Entry

A. Introduction

The NOI raises a number of questions about the extent of direct competition between cable companies, and the likelihood that future direct competition could limit any market power that might be associated with the existence of a local cable monopoly.[9] In this section we discuss the theoretical literature and empirical evidence that is available to help answer these questions. We also briefly discuss alternative forms of video distribution, and the barriers to entry that these alternative distributors might face.

Direct competition between cable systems for the same set of subscribers has been, and remains, a relatively rare phenomenon. Of the more than 9,000 cable franchises currently in existence, less than one-half of one percent face any direct competition for subscribers from other cable companies.[10] There are some indications that the number of "overbuilds" has recently increased,[11] but overbuilding nonetheless remains relatively rare.

The paucity of cable overbuilds should not be surprising if, as is widely believed, cable distribution is a natural monopoly. In virtually all discussions of the properties of cable technology it is assumed that the cost of serving a given geographic area is lowest when it is served by a single firm. The reason is that single firm production avoids duplicate investments in receiving equipment (*i.e.*, the "headend") and in the cable itself. Although this is a

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[9] *See* § I.A.7, and § C, of the NOI. *Also see* §§ IV and VIII of this comment for additional discussions of the cable franchising process.

[10] Direct competition between cable operators occurs when "two cable operators acquire overlapping municipal franchises, install cable on the same streets in some portion of the municipality, and compete to serve the same households." *See* Smiley (1986), p. 1. This is known as "overbuilding."

[11] The October 31, 1989 issue of *Cable TV Franchising* lists 78 pending overbuilds, and 21 actual overbuilds. *Cable TV Franchising* estimates that there are 41 percent more overbuilds now than one year ago.

reasonable argument,[12] only a few econometric studies of cable television costs exist.[13] These studies tend to confirm, however, the hypothesized natural monopoly properties of cable television.

Although cable television may be a natural monopoly, it does not follow necessarily (1) that incumbent cable providers should enjoy statutory or regulatory protection from entry, or (2) that competition from overbuilding could never be profitable and beneficial to consumers. As we discuss further below, while eliminating regulatory entry barriers will not necessarily ensure competitive behavior in every cable market,[14] it seems unlikely that there would be significant consumer injury from adopting such a policy. We think it likely that consumers in some cable markets could benefit from a policy of free entry, and that only in rare instances would consumers be harmed by such a policy.

B. The Likely Competitive Impact of Free Entry into Cable Markets

Recent work in the theory of natural monopoly demonstrates that monopoly is the least-cost industry structure when the firm's cost function has the property of "subadditivity."[15] Costs are said to be subadditive at some level of output if one firm can always produce that output at lower cost than can two or more firms. For example, subadditivity would exist if the total cost of

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[12] The economics of cable television would not seem to differ all that much from the economics of electricity and gas distribution, which also are typically assumed to be natural monopolies. One possible difference is that two different cable systems could potentially provide significantly differentiated products, while gas and electric companies could not.

[13] *See, e.g.*, Owen and Greenhalgh (1986).

[14] Economic theory, as well as the rarity of overbuilds, suggests that direct competition is not likely to occur very often. There are some circumstances, however, where two cable systems could survive in equilibrium. *See* Smiley (1986), and our discussion below, for a more detailed analysis.

[15] This theory is discussed in Braeutigam (1989), Baumol *et al.* (1982), and Sharkey (1982).

serving 50,000 cable subscribers within a given geographic area is lower when one firm serves all 50,000 subscribers than if two firms each serve 25,000.

It is important to distinguish subadditivity from the concept of "scale economies" familiar to those active in the field of public utility regulation.[16] Economies of scale imply that long term per unit cost declines as output increases. The existence of scale economies throughout a given range of output levels implies that costs are subadditive for that range of output levels, and, therefore, that the industry is a natural monopoly for that range of output levels.[17] However, monopoly sometimes may be the least-cost industry structure even when scale economies do not exist over the *entire* range of possible output levels. In other words, while scale economies imply subadditivity, the converse does not hold.

When an industry is a natural monopoly, it has traditionally been assumed that consumers will be better-off if there is only one producer, since the existence of more than one producer will raise total costs, leading to a higher price to cover the higher costs. The higher price, furthermore, would cause consumers to purchase fewer units of output than if price were lower. The purpose of traditional public utility regulation (*e.g.*, rate-of-return regulation) has thus been to require the monopolist to sell more units of output, at a lower price, than it would sell if it were free to choose the profit-maximizing price and output. When carried out successfully, traditional forms

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[16] The importance of this distinction will become more apparent below.

[17] *See* Sharkey (1982), pp. 86-90. Strictly speaking, this statement is correct only if the firm produces one good. If the firm is a multiproduct natural monopoly, the conditions for subadditivity become more complex. *See* Sharkey (1982), pp. 62-73.

of monopoly regulation distribute the benefits of monopoly production to consumers.[18]

Consumers might not benefit from monopoly production, however, even in a natural monopoly market, if regulatory controls are poorly-designed or nonexistent, and the monopolist's market power is otherwise not constrained. If the monopolist is able to keep the gains from monopoly production for itself (because its pricing power is unconstrained by regulation or the threat of competition), then consumers may be worse off under monopoly than if more than one firm were permitted to engage in production. Even though this would entail higher production costs, price might be reduced (and output increased) because there would now be some competition where none existed previously.

Entry (or the threat of entry) could induce an incumbent monopolist to keep prices lower than it otherwise might. When production is characterized by scale economies (as defined above), the threat of entry can, under some circumstances, induce the monopolist to set the market price equal to its average cost in order to deter entry. If it does this, no firm that enters on a smaller scale can survive, as the entrant's unit cost will always exceed this price. This is an example of what is known as a *sustainable* natural monopoly. Sustainability means that market demand and cost conditions make available to the monopolist a price such that (1) the market clears (*i.e.*, the monopolist produces all that is demanded at that price), (2) the monopolist (at least) breaks even, and (3) entry is unprofitable.[19] While sustainability does not necessarily ensure that the monopolist will set a price that results in maximum consumer

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[18] How well this has succeeded is, of course, the source of considerable debate. We briefly discuss the problems with rate-of-return regulation in § V, below.

[19] *See* Baumol *et al.* (1982), pp. 192-3.

benefits, it does mean that it can deter inefficient entry.[20] Thus, when the monopoly is sustainable, there is no compelling rationale for providing the incumbent with statutory protection from entry.[21]

The case for legal protection from entry is more compelling when costs are subadditive, but when scale economies do not exist over the entire range of possible production levels. A well-known example occurs when the firm's average costs have a "U"-shape; *i.e.*, costs fall until they reach some minimum point, and then rise.[22] If demand intersects this average cost curve to the right of its minimum point (but not far enough to its right to accommodate two firms producing at minimum average cost), costs will be subadditive; however, the monopoly will be unsustainable. This monopolist would not be able to charge a price that both covers its costs and deters entry. Inefficient entry might occur, resulting in higher costs (and perhaps price). In this case, it is *possible* that statutory restrictions on entry could benefit consumers.

It would be a mistake, however, to bar entry simply because of the theoretical possibility of nonsustainability. First, it seems reasonable that those who seek to bar entry should bear the burden of establishing that nonsustainability is likely to be a significant problem. As we stated earlier,

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[20] Cable franchises may sometimes be required to charge a uniform price throughout a cable franchise area even if the costs of serving different subscriber groups differ. In such instances, the uniform price means that some customers will be charged a price that exceeds the cost of serving them, while others will be charged a price below the cost of serving them. This structure of prices invites inefficient "creamskimming" entry by firms whose aim is to serve only the first group of customers. These efforts to enter might not be attempted if prices more closely reflected costs.

[21] As we discuss below, a natural monopoly will not always be sustainable against entry. Even when a natural monopoly is sustainable, the firm may have available to it several different sustainable prices. Not all of these prices will result in maximum consumer benefits. However, *when* a monopoly is sustainable, it will generally be true that the price that generates maximum consumer benefits will be a sustainable price. *See* Baumol *et al.*, pp. 208 ff.

[22] This example was first presented in Baumol *et al.* (1982), pp. 29-32, Sharkey (1982), pp. 88-89, and is discussed in greater detail in Brock and Evans (1983), pp. 69-76.

the limited evidence on cable costs suggests that cable systems experience scale economies (*i.e.*, decreasing unit costs) over the observed ranges of output. By itself, this implies sustainability. Moreover, to our knowledge, no studies exist that suggest that cable systems are subject to nonsustainability.[23] There is, therefore, no obvious reason why one should *presume* the existence of a sustainability problem.

Second, as Baumol *et al.* argue,[24] the case for entry restrictions outlined above holds with full force only when there are no sunk costs associated with entry into a market.[25] Otherwise, as they point out, the nonsustainability of the natural monopoly may only mean that the incumbent cannot *fully* exploit the advantages conferred on it (relative to the entrant) by the existence of the sunk costs. The incumbent may still be able to set a price that allows it to cover its costs and deter entry; this price may well be substantially below the price the monopolist would charge if it enjoyed regulatory protection from entry.

This point can be better explained with the aid of an example taken from Baumol *et al.* (1982, pp. 221-2). In figure 1, AC_m and AC_e are the respective average costs of the incumbent and entrant, and D is the market demand curve. The market-clearing price that allows the monopolist to exploit fully its cost advantage (relative to the entrant) is P_m. This price is not sustainable. However, a somewhat lower price, such as P_e, is sustainable. At this price, the monopolist could still satisfy total market demand and cover its

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[23] We do not argue that the nature of cable cost functions has been definitively resolved. Our understanding would be increased if cable systems were modelled as multiple output producers (e.g., as producers of basic and pay services). In a multi-output context, analysis of subadditivity and sustainability is more complicated. It is still true, however, that the issue of sustainability does not arise unless the conditions for subadditivity are satisfied. Empirically testing for subadditivity is more difficult in a multiproduct setting, but is still tractable; see Evans and Heckman (1984) for an example.

[24] *See* Baumol *et al.* (1982), pp. 221-4.

[25] Sunk costs are costs that cannot be recovered if a firm elects to exit a market.

costs; the entrant, however, would not be able to cover its costs. This price is

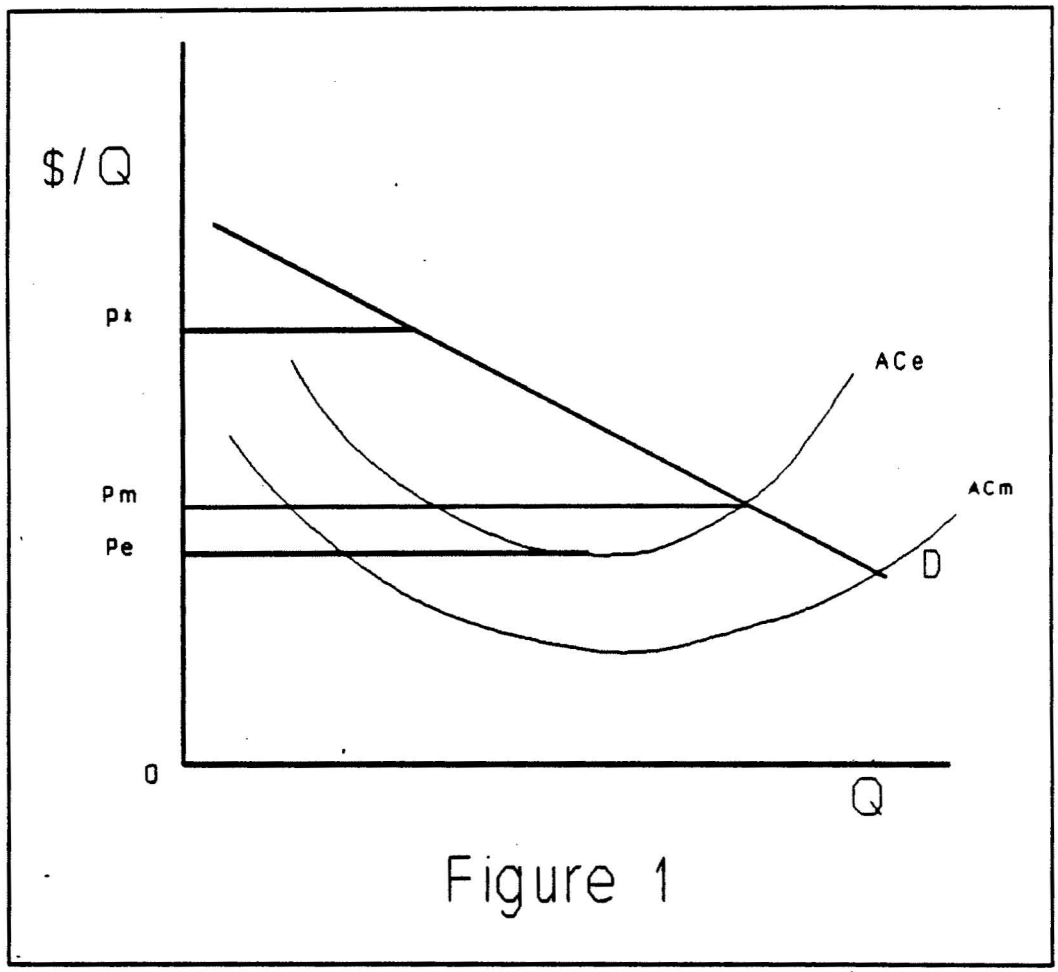

Figure 1

well below the unconstrained monopoly price, P_m.

Baumol *et al.'s* argument would seem to carry considerable weight when applied to the cable television industry. Entry into cable markets is characterized by substantial sunk costs. The cost of the cable, for example, is sunk;[26] once installed, an entrant could not profitably remove the cable for use in another geographic market if entry into the first market were unsuccessful.[27]

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[26] In many cases, literally as well as figuratively.

[27] By comparison, some of the other equipment (e.g., the receiving "dish") might be transferrable.

Thus, even if cable systems in some markets are nonsustainable natural monopolies, it may make little sense to provide these systems with statutory protection from entry, since the existence of substantial sunk costs may provide them with the ability to deter inefficient entry.

Although adopting a policy of free entry would appear to entail few risks, it does not follow that there necessarily would be a great many instances where two or more cable franchises could persist in equilibrium. Theory, and the historical infrequency of overbuilds, suggest otherwise.[28] However, there is some theoretical analysis suggesting that substantial consumer benefits could be obtained when *simultaneous*, rather than *sequential*, entry into a geographic market can be made possible.[29] That is, sustained competition may be more likely to occur when two firms enter the same market at the same time ("simultaneous" entry), than when one firm enters first, with the other following at a later date ("sequential" entry). This may have important implications for areas that currently do not have cable service.[30] Smiley (1986) constructed a simulation model of cable competition in which (among other things) he compared the total welfare (profits plus consumer surplus) that would be generated under monopoly and duopoly, the latter with simultaneous entry and differentiated-products. These comparisons were performed under a variety of

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[28] It is not clear, of course, whether the historical infrequency of overbuilds reflects a reluctance on the part of municipalities to grant a second cable franchise, or the absence of profitable entry opportunities.

[29] In Smiley's (1986) model (discussed below), sequential entry seldom occurs because, as one would expect, the incumbent's scale advantages allow it to set a price that covers its own costs while imposing losses on the entrant. Because the potential entrant knows that it cannot cover its costs, entry does not occur.

[30] According to the NOI (paragraph 41), it is estimated that about one-fifth of all television households are not passed by existing cable systems. Smiley's analysis of the benefits of sequential entry would be applicable principally to these households, but could also have relevance in other settings (e.g., as-yet unbuilt housing developments).

assumptions about cost[31] and demand. Smiley found that in most cases (including his benchmark case), total welfare and consumer surplus were higher under duopoly than under monopoly. That is, even though costs were higher under duopoly, consumer welfare was improved relative to monopoly because of the greater degree of price competition.[32]

C. Alternatives to Cable: Factors Affecting the Likelihood of Entry

Sections II.C.2 - II.C.4 of the NOI ask a number of questions about factors that might affect the competitiveness of alternatives to cable television. These alternatives comprise, among other things, direct broadcast services (DBS), and multichannel, multipoint distribution systems (MMDS).[33] Because these technologies have not yet been employed with great frequency, it is somewhat difficult to assess their viability. DBS, in particular, appears to be very much in its developmental stage, so it is hazardous to speculate about its prospects for success. We also note that DBS technology, as described in the NOI (*see* paragraphs 27-28), may have the cost characteristics that are typically associated with natural monopoly: namely, high fixed costs, and low marginal costs (per subscriber). In the long-run, it is conceivable that local cable television systems will be simply supplanted by a very small number (perhaps one) of DBS providers, with "intermodal" competition between cable television and DBS occurring only during a transitional stage. Thus, the ascent of DBS would not

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[31] In each case, however, Smiley assumed economies of scale. A duopoly equilibrium can occur in Smiley's model because there is complete symmetry between firms in terms of cost and demand, and because neither firm is given a "first mover" advantage (i.e., the ability to enter the market first and gain the advantages of scale economies).

[32] Even where total welfare fell under duopoly it is possible that consumer surplus increased. Smiley did not report the breakdown between profits and consumer surplus for all of his simulations, so it is not possible to tell if this occurred.

[33] MMDS is sometimes referred to as "wireless cable."

necessarily ensure the long-term existence of competition in the distribution of video signals.

As we observe on pages 20-21, below, the competitive constraint imposed on a cable system by some of these alternative technologies could well differ in different geographic settings. MMDS, for example, is likely to be a poor substitute for a cable system when there are physical obstructions (*e.g.*, hills and tall buildings) that would block the former's signal. Entry by an MMDS might also be affected by regulatory factors.[34] Moreover, because MMDS has a relatively low channel capacity, its attractiveness to consumers as a substitute for cable will depend upon the quality (*i.e.*, number and type of channels) offered by the incumbent cable system.

Much of the discussion about the likely success of alternative distribution technologies has centered on questions regarding "access to programming." This is discussed in considerable detail in § VII (below).

D. Conclusion

Restricting entry into cable markets can be justified only under a very restrictive set of conditions; namely, when the local cable market is a natural monopoly, and when this monopoly is not sustainable. Moreover, these criteria are best thought of as necessary, but not sufficient, conditions for insulating an incumbent from the threat of entry. When entry requires the creation of sunk assets, the incumbent might still be able to deter inefficient entry and cover its costs even when the conditions for sustainability are not satisfied. The resulting price may be well below that which would prevail if entry were restricted.

As an empirical matter, it is difficult to say whether entry (or the threat of entry) would pose an effective constraint on the market power of cable

[34] We lack data on the impact of regulatory factors on entry by MMDS's.

operators, or whether additional constraints, such as price regulation, would be necessary for this purpose.[35] The principal message of this section is that there is likely to be little merit in discouraging entry; in some situations, such as a currently unserved community, encouraging simultaneous entry might result in lower equilibrium prices than would occur if only a single franchise were granted.

[35] We address these regulatory options in § V, below.

IV. Product Market Definition

A. Conceptual Issues

Paragraph 19 of the NOI asks for information on the appropriate product market for assessing the local market power of cable operators. While we cannot provide a conclusive product market definition applicable to all geographic markets, we believe that the FTC *Merger Statement*[36] and the 1984 Department of Justice *Merger Guidelines*[37] articulate a useful method for addressing this issue. Further, recent developments in applied economic analysis may suggest means by which any existing market power could be formally quantified.

Identifying the possible existence of market power under the *Guidelines* approach can be thought of (approximately) as a three-stage procedure. Step one consists of identifying a relevant antitrust market. Step two consists of computing market shares in this market. Step three consists of evaluating the conditions of entry into this market and factors affecting the likelihood of successful collusion.[38] Generally speaking, unless concentration in a relevant antitrust market is high, and entry difficult, there will be few opportunities for the exercise of market power.

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[36] *See* FTC Merger Statement § 2.11 June 14, 1982, *reprinted in* 4 Trade Reg. Rep. (CCH) para. 13,200.

[37] *See* U.S. Department of Justice Merger Guidelines June 14, 1984, *reprinted in* 4 Trade Reg. Rep. (CCH) para. 13,103.

[38] Conditions of entry are discussed in § III of these comments; hence, we do not address this topic further.

1. Identifying the Relevant Antitrust Market

The *Guidelines* define the relevant product market as the smallest "group of products such that a hypothetical firm that was the only present and future seller of those products could profitably impose a 'small but significant and nontransitory' increase in price."[39] The *Guidelines* generally define a "small but significant and nontransitory" increase in price as "a price increase of five percent lasting one year."

The goods or services that make up the relevant product market are determined by the willingness of consumers to switch to alternative products and services in response to a price increase.[40] That is, if an attempt by a monopolist producer of product A to raise the price of A[41] by a small but significant and nontransitory amount caused so much switching to product B that the increase in the price of A was unprofitable, the relevant product market would include at least A and B. It would then be asked if a hypothetical increase in the prices of A and B would cause so much consumer switching to product C that the attempted price increase would again be unprofitable. If the answer is no, A and B make up the relevant product market. Otherwise, C is added to the market, and the profitability of an attempted price increase of A, B, and C is evaluated. This procedure is continued until the smallest group of

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[39] *See* U.S. Department of Justice Merger Guidelines Issued June 14, 1984, 4 Trade Reg. Rep. (CCH) para. 13,103, § 2.11.

[40] *See* Werden (1983), p. 524-5. The issue of supply-side substitution comes into play when market shares in the relevant market are computed.

[41] The *Merger Guidelines* (§ 2.0) define the relevant market using the "prevailing or likely future" price of A as the reference point for assessing the profitability of a price increase. This price could, however, reflect the exercise of existing market power by the producer of A. Since the FCC's objective is to identify any existing market power held by the producer of A (rather than an increase in market power that might arise because of a merger), it should use the competitive price, not the prevailing price, as the benchmark for this procedure.

products is found for which a hypothetical monopolist would find it profitable to establish and maintain a significant and nontransitory price increase.

2. Computing Market Shares in the Relevant Antitrust Market

The ability of the firms in a properly defined market to raise price, either through the market dominance of particular producers, or through collusion, is generally thought to be related to market concentration. To measure concentration, the productive capacity of two groups of producers are typically taken into account: those currently producing the products in the market, and those that could commence (but as yet have not) production of these products within a "short" (i.e., one-year) time period.[42] Firms that would find it profitable to produce and sell the relevant products, subsequent to a price increase, would tend to be assigned market shares that reflect their ability to convert their production facilities to engage in the production and sale of the relevant products.[43] Such conversions, often referred to as "supply-side" substitution, are important in assessing market power. Thus, products A and B might be regarded by consumers as such poor substitutes that they should not be incorporated into the same product market. If, however, the production facilities used for product B could quickly and easily be switched to the production of A, the producers of B would be assigned market shares (in market A) to help determine whether product A could be priced supracompetitively.

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[42] *See* § 2.21 of the *Guidelines*.

[43] *See* Werden (1983), p. 519.

3. Applying the Guidelines to Cable Markets: An Illustration

To better illustrate the *Guidelines'* method for identifying a relevant product market, consider the following example. Imagine that a city currently is served by one large cable operator, several over-the-air broadcast stations, and an MMDS that currently has a small number of subscribers. For simplicity, initially assume that the cable operator provides only one level (or "tier") of service. This assumption will be relaxed, below.

To determine whether the service provided by the cable operator constitutes the relevant product market, we might first ask whether a cable operator in an unregulated market, if permanently shielded from direct competition from other cable operators, could raise prices above competitive levels. Consumers' alternatives to cable (in this example) are over-the-air (OTA) broadcasts, VCR services, and MMDS services. The question then is whether enough subscribers would discontinue cable service (i.e., switch to OTA broadcasts, VCRs, or the MMDS) to make a small but significant and nontransitory price increase unprofitable. If the answer is "no," then cable services constitute a relevant antitrust product market.[44] If the answer is "yes," then one would ask whether a similar increase in the price of both the cable service and its next best substitute (the MMDS) would be profitable. Depending upon the answer to this question, it would be determined either that cable service and MMDS service jointly constitute the relevant product market, or that the product market should be once again expanded to include the next closest substitute, and the profitability of a hypothesized joint price increase assessed.

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[44] We do not address here whether the cable operator could increase rates to advertisers. But the same analysis would apply. Thus, the question is whether price is constrained by alternatives to cable faced by advertisers so that the cable operator would not find it profitable to raise price, even if it had the only franchise.

Suppose that it is determined at the conclusion of this procedure that the relevant product market consists of both cable and MMDS services.[45] The next task would be to assess the degree of concentration in this market. A number of different methods are available for calculating market shares and the corresponding concentration indices. One could base these computations on current subscriber shares, for example, or upon some measure of capacity to serve subscribers. The measurement base should be chosen so that the resulting concentration index provides the best possible indicator of potential joint or unilateral market power.[46] For example, although the current example presumes that the cable system initially has many more subscribers than the MMDS, it is hypothetically conceivable that the MMDS could quickly and easily expand its subscriber base in response to a unilateral price increase by the cable system. If so, constructing a concentration index from data on current subscriber shares, rather than on the capacity to serve subscribers, could exaggerate the market power of the cable system, and understate the competitive constraint imposed on the cable system by the MMDS.[47] Conversely, if the MMDS could only add additional subscribers slowly, or at high cost, then it might be appropriate to derive the concentration index using existing subscriber share figures.

Recent years have witnessed the growth of a number of possible alternatives to cable television. In addition to VCRs and MMDS, there are home satellite receiving dishes and private cable system (i.e., satellite master antenna television systems, or "SMATVs"), all of which are capable, to some degree, of providing video programming that formerly was obtainable primarily through

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[45] We emphasize that this assumption is made purely for illustrative purposes; we make no claim as to the actual substitutability of MMDS services for cable services.

[46] *See* Werden (1983), p. 521, and Dansby and Willig (1979).

[47] As a consequence, one might incorrectly ascribe unilateral (or "dominant firm") market power to the cable system, when in actuality the exercise of market power might require the participation of both producers.

cable.[48] Whether the services produced by these alternative providers should be considered part of the relevant product market is determined by the willingness of cable subscribers to drop cable in favor of these substitutes in response to a price increase. This will depend upon the perceived quality[49] of these alternatives, and their prices.[50] The ability of the producers of these alternatives to increase output to satisfy any increased demand will depend upon their production technology, the speed with which they can increase output, and other considerations, such as regulatory factors.[51]

Whether these other services belong in the relevant market, and if so, whether they can be expected to impose much of a constraint on an incumbent operator, could vary across geographic markets. First, the quality of existing cable systems is not geographically uniform. Consumers might find that over-the-air broadcasting, combined with a VCR, provides a very good substitute for the services provided by a 12 channel system, but a very poor substitute for a 54 channel system. Also, underlying consumer preferences (and thus consumer demands) for cable might vary across geographic markets. Third, the existence of alternative suppliers might differ substantially across markets. For example, in some regions of the country there are numerous private cable systems

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[48] This list is not exhaustive. As we noted in § III, above, some have suggested that direct broadcast service ("DBS") television may also become a source of competition for cable operators in the future. DBS systems would beam programs to homes equipped with rooftop dishes directly from a satellite. *See* "Direct-Broadcast TV May Be Getting Off Ground," *Wall Street Journal*, February 21, 1990, p. B-1.

[49] It should be emphasized that "quality" as used here includes the suitability and range of program choices offered by different media; e.g., a VCR can be used to view movies but cannot provide live sports programming, which would cause some consumers to consider it a "low quality" alternative to a premium channel.

[50] The prices of these alternatives will be determined in part by the technological conditions, and by the prices that these producers face for inputs (e.g., the cost of labor, equipment, programming, etc.).

[51] *See* § VII of the comment for a discussion of additional factors that may affect the supply elasticity of these alternative distributors.

(SMATVs) that perhaps could be granted municipal franchises,[52] and thus be able to expand geographically and provide a source of competition for the incumbent cable operators.[53] In areas where such producers are not already present, presumably it would take longer for such producers to be able to serve the market. Fourth, topographical and regulatory conditions will vary in different markets. This limits the effectiveness of certain alternative providers. MMDS, for example, works poorly when there are physical obstructions, such as hills and tall buildings. Regulatory conditions might also affect the ability of an MMDS to rapidly enter and serve a particular geographic market.

4. The Impact of the Regulatory Structure on Product Market Definition

Up to this point we have discussed the competitive constraints on cable systems at a fairly high level of generality.[54] The FCC is concerned, *inter alia*, with a more focused question: identifying the competitive constraints faced by cable operators on the provision of *basic* service. Identifying these competitive constraints is not necessarily straightforward, however, since the composition of basic service, and therefore its competitive alternatives, depends critically upon the nature of the prevailing regulatory system.

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[52] SMATVs generally serve multiple dwelling units, such as apartment and condominium complexes.

[53] Private cable systems may not cross a public right-of-way without a franchise. *See* 47 U.S.C. § 522 (6)(B) (excluding systems that do not cross the public right-of-way from the statutory definition of "cable systems"); 47 U.S.C. § 541 (b)(1) (requiring all "cable systems" to obtain franchises). It should be noted that a number of states have enacted statutes that impede the ability of municipalities to grant multiple cable franchises.

[54] Section 623(b) of the Cable Act deregulated the price of basic service only where the cable operator was subject to "effective competition" for basic service. In its *Report and Order* (MM Docket No. 84-1296, 50 Fed. Reg. 18637 (1985)), the FCC determined that effective competition exists where three off-the-air broadcast signals are available in the cable community. The FCC recently issued a *NPRM* on Effective Competition to determine if this standard should be revised.

Prior to the passage of the Cable Act, the FCC had jurisdiction to regulate cable TV to the extent that such regulation was "reasonably ancillary to the . . . regulation of television broadcasting."[55] Under this authority, the FCC promulgated regulations that permitted all franchising authorities to regulate the price of "regular subscriber service," but not specialized programming with "per-program" or "per-channel" charges.[56] Subsequently, the FCC defined "regular subscriber service" to include the carriage of broadcast signals and any local origination or public access channels required under the franchise.[57] Premium channels, such as HBO, were not part of "regular subscriber service," but rather constituted specialized programming with a per-channel charge that could not be subjected to price regulation.[58] Distant broadcast signals, such as WTBS, WGN and WOR, and advertiser supported satellite channels, such as CNN, ESPN, USA and MTV, were also determined not to be "regular subscriber service;" accordingly, the presence of such channels on a service tier did not bring that tier within the scope of permissible rate regulation.[59]

The Cable Act changed the scope of permissible regulation by adding the requirement that a cable system be without "effective competition" before it could be subject to rate regulation.[60] The scope of regulation, for all practical

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[55] *See United States v. Southeastern Cable Co.*, 392 U.S. 157, 178 (1968).

[56] 47 C.F.R. § 76.31(a)(4) (1974).

[57] *Clarification of Cable Television Rules*, 52 F.C.C. 2d 1, 68 (1975).

[58] *See Brookhaven Cable TV, Inc. v. Kelly*, 573 F.2d 765 (2d Cir. 1978), *cert. denied*, 441 U.S. 904 (1979).

[59] *See In re Community Cable TV, Inc.*, 95 F.C.C. 2d 1204, 1216-17 (1983) (limiting the scope of permissible rate regulation to local broadcast signals as defined by the FCC's "must-carry" rules).

[60] 47 U.S.C. § 623(b).

purposes, however, remains the same.[61] The franchising authority may only regulate tiers of service that include "retransmission of local television broadcast signals."[62]

According to the recent GAO *Survey of Cable TV Rates and Services*, the average cable system offers about 30 channels on its lowest-priced basic tier. Many have inferred from this that local television broadcasts likely constitute a poor substitute for basic cable service. This inference might be correct, given the *existing* composition of basic service. As the FCC has recently observed,[63] however, the composition of the basic service tier (or any other tier) is not fixed; cable operators have considerable discretion in choosing which channels will be included in the basic service tier, and which will be incorporated into higher tiers.[64] This choice will be determined by profit considerations, which will be influenced by prevailing regulatory standards. If a more stringent "effective competition" standard were to be adopted (thus subjecting a greater number of cable operators to regulation of basic service rates), these cable operators would have a considerable incentive to reconfigure their tiers so as to avoid the new regulations.[65] That is, they would likely redefine basic service so that it would consist principally (or exclusively) of local, over-the-air broadcast channels, and transfer other nonbroadcast channels to higher, still-unregulated tiers, which could be priced to exploit whatever market power cable has in supplying those market segments. It is conceivable that the array of

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[61] *See ACLU v. FCC*, 823 F.2d 1554, 1558-59 (D.C. Cir. 1987), *cert. denied*, 485 U.S. 959 (1988).

[62] 47 U.S.C. § 522 (2).

[63] *See* paragraphs 16-18, and 44, of the *NPRM* on Effective Competition.

[64] The F.C.C. has explicitly noted this possibility in its *Notice of Proposed Rulemaking* on Reexamination of the Effective Competition Standard for the Regulation of Cable Television Basic Service Rates ("Effective Competition *NPRM*"), MM Docket No. 90-4, January 22, 1990, par. 44.

[65] *See, e.g.*, Leffler (1982).

channels offered on the basic service tier would come to resemble closely the array available over-the-air. Thus, while over-the-air broadcasts may not present an effective constraint on the price of basic services as that service tier is presently structured, it is plausible that these broadcasts *would* provide a close substitute for basic services as the latter would come to appear in an environment where *only* basic service rates were regulated.[66]

It would be incorrect, of course, to infer from this logic that cable operators face "effective competition." Depending upon the existence of effective competitive constraints for the higher level service tiers, perhaps the best way to view cable operators might be as multiproduct monopolists who face regulatory constraints only on a subset of the services that they produce. If the cable operators can easily shift services from regulated to unregulated service tiers (as they apparently can), and face little or no effective competition in the provision of these higher service tiers, then their market power will be largely unchecked. Thus, as we note in § V, below, effective local regulation of cable systems' market power might require that local authorities be statutorily empowered to regulate the content of basic service, or to regulate the prices of the higher service tiers.[67]

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[66] This is simply a manifestation of a phenomenon that frequently arises when producers are subject to price controls, but are left free to vary quality and other dimensions of their service. Other types of price controls are known to generate similar effects; a well-documented effect of rent control, for example, is a deterioration of the rental property quality.

[67] As we note in footnote 96, below, there may be constitutional barriers to expanding regulation in this manner.

B. Empirical Approaches to Market Definition

The market definition method described in the preceding section implicitly embodies the measurement of market power in terms of the "residual demand elasticity" facing the hypothetical monopolist.[68] The residual demand elasticity incorporates both the demand-side responses of consumers, as well as the supply-side responses of other firms, to a price increase by the monopolist. A firm facing a highly elastic residual demand curve has little exploitable market power, as a small price increase on its part will cause large reductions in its sales.[69]

We are unaware of any published efforts to estimate directly the residual demand functions facing cable operators. Webb (1983) and Pacey (1985) each estimate equations that attempt to determine the impact of cable prices on cable penetration rates (the ratio of subscribers to homes passed). However, these estimates might not contain a great deal of information about the current state of cable markets, because they are based on data that are relatively outdated,[70] and because of econometric difficulties.[71]

Recently, a number of authors have discussed the possibility of empirically estimating residual demand functions to identify antitrust markets.[72] In principle, this technique could be used to answer the question of whether individual cable franchises have significant market power, or if

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[68] *See* Landes and Posner (1981).

[69] A perfectly competitive firm faces an infinitely elastic (i.e., flat) residual demand curve.

[70] The Webb estimates are based on data for 1979; the Pacey study used data for 1980.

[71] The estimates are likely biased and inconsistent (in the statistical sense of these terms) because the estimation procedures employed did not take account of the simultaneity between the price of basic service and the number of subscribers.

[72] *See* Froeb and Werden (1990), Scheffman and Spiller (1987), and Baker and Bresnahan (1984, 1985, and 1988).

instead they are subject to significant competitive constraints from other distributors of video signals. While residual demand estimation is certainly not the only useful empirical approach to identifying antitrust markets and measuring market power, it is a potentially worthwhile tool that on some occasions may provide a useful complement to information obtained by other means.

Although this procedure is complex,[73] its basic elements can be fairly easily understood. Suppose that the costs of a cable operator go up (e.g., because its program suppliers raised their prices), while the costs of its ostensible rivals (e.g., a local MMDS) remain unchanged.[74] If the cable operator faced a "flat" residual demand curve, it could not pass on any cost increases to subscribers: any attempt to do so would cause its customers to switch to the services produced by these rivals, and its sales would fall to zero. If, by contrast, the cost of programming to all of these different local distributors went up, then this cable operator could raise its price without suffering large decreases in subscriptions, since its rivals also would have raised their prices to reflect their higher costs. If the cable operator instead faced a "steep" rather than flat residual demand curve, it could raise its price to cover its higher costs, even if its rivals' costs (and prices) did not change. Depending upon how "steep" (i.e., inelastic) this residual demand curve is, the cable services might qualify as a separate product market.

This example embodies the essence of econometric estimation of the residual demand curve. The basic approach is to explain the price charged by a particular firm (or group of firms) in terms of (1) factors that affect *only* its

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[73] *See* Froeb and Werden (1990) for a detailed discussion of the subtleties associated with the use of this technique.

[74] Obviously, the technique that we are describing can be used only when these rivals were actually present in the market during the sample period. This empirical method cannot, in other words, measure the impact of competition from new entrants.

costs, and (2) factors that affect its costs *and* the costs of possible rivals. If variations in a firm's price can be explained by changes in factors that affect *only* its costs, then the firm has some market power that can be quantified. If variations in the firm's price can be explained *only* by factors that affect both its costs and those of its rivals, then the inference of market power is weakened. This procedure requires two types of data: cost data that are *unique* to the firm(s) being analyzed, and cost data that pertain to this firm and to possible rivals.

The residual demand approach is appealing because it captures supply and demand responses that determine whether a firm (or group of firms) could exercise market power. However, the approach is not without limitations. Two potential difficulties, as highlighted by Froeb and Werden (1990), are *extrapolation* and *nonstationarity*. The extrapolation problem refers to the fact that the market definition task may require "inferences about demand and cost conditions away from the neighborhood of the prevailing equilibrium and probably also outside the range of historical experience."[75] The nonstationarity problem arises if demand and cost conditions are subject to major changes, so that past experience (i.e., as reflected in the data employed to estimate the residual demand) might not provide a useful guide to future competitive conditions.

We suspect that the extrapolation problem perhaps may be less an issue in cable television than in other markets, since the deregulation of basic rates gave operators a great deal of pricing discretion that had previously not existed. The price, quantity, and quality changes that occurred in the aftermath of deregulation may give one a much better idea about the nature of the demand for cable services than otherwise would be possible.

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[75] Froeb and Werden (1990), p. 5.

Unfortunately, the price and quantity changes that have occurred during the past few years may reflect not only changes in the regulatory environment, but changes in underlying (and unobservable) consumer preferences and production technologies. This could contribute to a nonstationarity problem, if, as seems likely, changes of this nature are likely to continue. While these factors diminish the confidence in any particular demand estimate, it is doubtful that they eliminate their usefulness entirely. *Any* technique that attempts to forecast future competitive conditions from historical experience will be, to some extent, affected by this problem.

C. Conclusion

While we cannot provide any empirical generalizations regarding the magnitude of cable operators' market power, we believe that the method articulated in the 1984 Department of Justice *Merger Guidelines* and FTC *Merger Statement* could focus the issues and provide guidance for its resolution. Additionally, recently developed empirical techniques for measuring firm-specific market power may provide a useful complement to information gathered by other means. Although there are difficulties associated with the use of these techniques, they may nonetheless provide some useful insights into the nature and extent of cable operators' market power.

V. Regulatory Options

Section II.D of the NOI requests a discussion of regulatory options should it be determined that market forces are generally inadequate for the purpose of limiting cable operators' market power. There are three general options that might be considered for this purpose. The first is traditional "rate-of-return" regulation; the second is "price cap regulation"; and the third is "franchise bidding." The potential and actual problems associated with rate-of-return regulation have been well-documented, and numerous observers have argued that price cap regulations and franchise bidding schemes hold out greater promise as efficient regulatory mechanisms. In this section, we briefly review the emerging theoretical and empirical literature that addresses this question and attempt to assess its implications for any attempt to re-regulate cable television.

A. Price-Caps Versus Rate-of-Return Regulation

Public utilities have traditionally been subject to rate-of-return (or "cost-of-service") regulation. The goal of this regulation is to exploit the advantages of natural monopoly, while requiring the monopolist to pass on the benefits of these technological advantages (*e.g.*, scale economies) to consumers of the product. Rate-of-return regulation requires the regulator to estimate the cost and demand conditions facing the monopolist, and to set a price (or a set of prices) that just permits the firm to cover its costs, including a competitive return on capital.[76]

The potential difficulties associated with this form of regulation are many and well-documented.[77] First, the regulator requires an enormous amount of information to carry out its task and generally must rely upon the regulated

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[76] Usually referred to as a "fair" return in most regulations.

[77] *See* Brennan (1989), and the sources cited therein.

firm to supply a substantial portion of this information. This regulatory process is administratively costly and subject to manipulation on the part of the regulated entity. Second, regulatory errors in setting the allowed rate-of-return can lead to systematic biases in capital investment by the regulated firm. Third, rate-of-return regulation provides the firm with little incentive to reduce cost, as any reductions are fully rebated to consumers, thus leaving the firm no better off than if it had continued to operate at higher cost.[78] Fourth, if the regulated entity also sells in unregulated markets, the opportunity for profitable, yet socially inefficient, cross-subsidization is created.[79] Cross-subsidization occurs if the firm attempts to build the costs associated with the unregulated product into the rate base for its regulated product.

The existence of these problems has induced a search for alternative regulatory mechanisms that might offer a promise of superior performance. Price-cap regulation is one such alternative. Price-cap regulation can be characterized as follows:[80] (1) the regulator sets a price ceiling, but, in contrast to rate-of-return regulation, the firm has discretion to set its prices below this ceiling; (2) the price ceiling is periodically adjusted automatically by a factor that is exogenous to the firm (e.g., an adjustment to reflect overall inflation); and (3) over longer intervals, the ceiling and automatic adjustment factor are subject to review and possible revision.

Proponents of price-cap regulation have made a number of claims on its behalf. First, because firms are allowed to retain a portion of their cost reductions, they may have a greater incentive to reduce costs than under rate-

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[78] *See* Mathios and Rogers (1989), and the references cited therein.

[79] *See* Brennan (1987). Before cable rate deregulation, only the price of basic service was regulated; "extended basic" service and premium channels were not regulated.

[80] *See* Acton and Vogelsang (1989), p. 370.

of-return regulation.[81] Consumers might benefit from this action if price cap regulation causes some portion of anticipated cost decreases to be passed on to consumers through a reduction in the cap. The fact that price can be reduced without prior regulatory review provides an added inducement (relative to rate-of-return regulation) to cut price when costs fall.[82] The administrative costs of price-cap regulation are likely to be considerably lower than those associated with rate-of-return regulation, since there is less regulatory oversight. Further, the regulator's informational burden is probably lower under a price-cap regime. Price-cap regulation may also make it easier to develop schemes that provide the firm with an incentive to reveal cost and demand information truthfully to the regulator.[83]

Though powerful, the theoretical evidence in favor of price-cap regulation is not unequivocal. Brennan (1989) and Schmalensee (1989) have argued on theoretical grounds that the supposed benefits of price-cap regulation will not materialize under some conditions. The available empirical evidence, however, suggests that consumers are better off when price-cap regulation is used instead of rate-of-return regulation. The only major empirical study of comparative regulatory regimes done to this point is that of Mathios and Rogers,[84] who compared AT&T's rates for intrastate, long-distance telephone service in states that allow AT&T pricing flexibility with its rates in states that use rate-of-return regulation. Their findings suggest that AT&T's daytime,

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[81] *See* Cabral and Riordan (1989).

[82] Not only is regulatory review of price reductions costly and time-consuming, it also affords less efficient rivals an opportunity to prevent or delay the price cut if, as is typically the case, they have standing to participate in these proceedings. Haring and Kwerel (1987) reported that AT&T's rivals opposed virtually every price reduction proposed by AT&T since its 1982 divestiture, and some of these rivals may have been less efficient than AT&T.

[83] *See* Sibley (1989).

[84] *See* Mathios and Rogers (1988, 1989).

evening, nighttime, and weekend rates were significantly lower in states that allowed pricing flexibility than in states that used rate-of-return regulation.

If consideration is to be given to re-imposing rate regulation on cable operators, we believe that price-cap regulation should be given serious consideration as an alternative to rate-of-return regulation. The lower information requirements of price-cap regulation may be particularly advantageous in this setting, given that the regulatory responsibilities will often be carried out by local authorities who may lack the resources to analyze or otherwise handle large quantities of information.

Although price-cap regulation may outperform rate-of-return regulation under a variety of circumstances, there are problems, as Brennan (1989) has observed, that even perfect price-cap regulation cannot adequately address. One of these is the manipulation of product quality. As numerous authors have demonstrated,[85] the level of quality emerging under monopoly will differ from that associated with competition. We discussed in § III of this comment[86] how the regulatory framework that existed prior to the enactment of the Cable Act, as well as that which exists today, permits and encourages the redefinition of service tiers so as to avoid regulatory rate controls. If it is determined that some form of explicit rate regulation is necessary to constrain the market power of cable operators, effective regulation would seemingly require that the regulatory authority be empowered either to control the rates charged for *all* service tiers, or to impose "minimum quality" controls along with rate controls (e.g., stipulate that "basic" service offer certain specified channels).[87] Without

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[85] *See*, for example, Leffler (1982), and Besanko, Donnenfeld, and White (1987, 1988).

[86] Also *see NPRM* on Effective Competition, par. 44.

[87] We recognize that the law is unsettled as to whether the FCC is authorized to require cable operators to provide certain services as part of their basic service package. *See NPRM* on the Effective Competition Standard, par. 44. Constitutional issues may also arise here. *See* footnote 96, below.

such regulatory authority, it is unclear that rate regulation could ever effectively constrain the exercise of market power.

B. Regulation Through Franchise Bidding

As an alternative to detailed regulation of prices, some observers have proposed that natural monopolies be regulated through a franchise bidding process.[88] Under this scheme, the government does not regulate in detail the monopoly. Instead, it grants a monopoly franchise to the firm that promises in advance to charge (for a given service quality) the lowest price throughout the franchise period. The potential problems with this approach have been widely discussed in the literature.[89] Much of this criticism has focused on the possibility of "post-contractual opportunism." Once granted the franchise, the monopolist will have an incentive to reduce quality, and to exaggerate costs to provide a pretext for deviating from the low price that it had promised to charge. There is also the possibility that the government will engage in post-contractual opportunism; it might, for example, later demand services valued by small but well-organized groups that raise the franchisee's costs by more than the associated benefits to all subscribers.[90]

The performance of franchise bidding schemes in cable television has been analyzed in several recently published papers.[91] The authors conclude that the franchise bidding process, though imperfect, seems to perform better than its critics predict. Zupan (1989a, p. 439), who studied cable rates prior to deregulation, concludes that "*ex ante* competition for franchise awards as well

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[88] The seminal article on this is Demsetz (1968).

[89] *See* Williamson (1976), who saw cable television as the archetypical example of a market where such a scheme would not work.

[90] Examples of this are "institutional networks" and "community programming." *See* Zupan (1989a, pp. 404-7).

[91] *See* Zupan (1989a, 1989b, and 1989c), and Prager (1989).

as the informal and formal rate control mechanisms possessed by most local franchisors appear to be quite successful at preventing monopoly pricing." Zupan (1989c, p. 481) found that "with regard to basic tier prices and the prices charged per channel of basic service, the terms of trade are statistically no more favorable to operators in renewal contracts than in initial franchise awards." Similarly, Prager (1989, p. 126)[92] finds "a notable absence of the types of problems that Williamson[93] might lead us to expect."

A present problem with franchise bidding (when compared with the periods studied by Zupan and Prager) is that the 1984 Cable Act may have made it easier for cable operators to engage in post-contractual opportunism. Zupan (1989a, p. 439) concludes that the "institutional mechanisms that so effectively restrain guileful operator conduct are cross-city and within-contract reputational considerations and cities' monopsony power." The threat of franchise nonrenewal also seems likely to have played a role in constraining a franchisee's conduct. At the time of expiration, the operator may have substantial market-specific physical and human capital whose value may in part be lost if its franchise were not renewed.[94] The 1984 Cable Act, however, may make it more difficult for local governments to threaten nonrenewal. Section 626(c)(1) limits the criteria that the government may use in deciding to not renew an operator's franchise. This decision may not be based on the prices charged by the operator, nor on "the mix, quality, or level of cable services or other services provided over the system."[95] These are obviously the service variables of greatest interest to cable subscribers. The fact that cities cannot

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[92] Prager studied the franchise bidding process in Massachusetts over the period 1973-81.

[93] *See* Williamson (1976).

[94] *See* Zupan (1989c), p. 477. The incumbent might be able to recover part of the cost of its physical capital if it can sell it to the new franchisee.

[95] 47 U.S.C. § 626(c)(1).

VI. "Trafficking" in Cable Systems

Paragraph 47 of the NOI seeks comment on whether direct regulation of the sale of cable systems is necessary; i.e., whether "trafficking" in cable systems is undesirable and should thus be regulated. In the present context, "trafficking" refers to the purchase and rapid resale of cable systems.

The FCC's interest in the possible detrimental effects of trafficking is longstanding. Previously, concern focused principally on the sale of broadcast licenses and permits for the purpose of making "a profit rather than for the purpose of rendering a public service."[97] The chief objection to the unrestricted exchange of these assets was that frequent changes in station ownership would create "uncertainty on the part of station personnel and disruption in operational continuity [and thus] cause programming deterioration incompatible with programming in the public interest."[98] The FCC's apprehension about the deleterious effects of trafficking was grounded partly on the belief that "'speculation in licenses' would lead to increased station prices, allowing 'only wealthy individuals or businesses' to purchase broadcast properties, and possibly leading the new ownership to decrease the quality of programming and increase the quantity of commercials in an effort to recover its investment."[99]

In questioning the appropriateness or necessity of antitrafficking regulation, the NOI observes that some parties have alleged that trafficking in cable systems is responsible for much of the rise in basic rates that has occurred

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[97] *See Paul Crosely, Jr.*, 11 F.C.C. 3, 23 (1945).

[98] *Notice of Proposed Rulemaking*, FCC 60-1466, 25 Fed Reg. 12898, Docket No. 13864, December 1960. This proceeding led to the adoption of the "three year rule," which was repealed in 1982. The "three-year rule" required a broadcast application for assignment or transfer filed prior to the completion of a three-year holding period to be designated for a hearing, unless there were certain, specified extenuating circumstances, or a meritorious waiver request.

[99] *Notice of Proposed Rulemaking*, In The Matter of Amendment of Section 73.3597 of the Commission's Rules (Applications for Voluntary Assignments or Transfers of Control), BC Docket No. 81-897, (December 30, 1981).

in recent years.[100] Accordingly, the NOI solicits comments on what effects regulation of trafficking would have on the market price of cable systems, basic cable rates, and innovation or technological change by cable systems.

In evaluating whether the unrestricted sale of cable systems would likely adversely affect consumers, we assume current system owners operate their systems in ways that maximize their market value.[101] We also assume initially that the buyer of a cable system is no more efficient than the seller. In many cases this will not be true; as will be discussed later, the motivation for many acquisitions is likely to be the gains from improvements by more efficient operators.

Assuming that cable system owners seek to maximize profits, it is difficult to see how "trafficking" in and of itself could affect the rates charged to cable subscribers. The standard analysis of profit maximization calls for the owner of a firm to choose prices and outputs such that any subsequent change adds more to costs that it does to revenues. This is the familiar concept in which the firm equates marginal revenue and marginal cost. Marginal revenue is determined by the demand for cable services. The demand facing a given cable operator is determined by such factors as: (i) the quality of the cable system (e.g., number and quality of channels); (ii) the extent of competition from other sources (e.g., over-the-air broadcasters); and (iii) the income, tastes,

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[100] *See, e.g.*, the response of the state of Hawaii to the NOI. According to a recent survey by the General Accounting Office (August 1989), the average nominal (i.e., not adjusted for inflation) charge for basic service increased by 26 percent between December 1986 and October 1988. The real (inflation-adjusted) change was smaller (about 15 percent). This increase in basic service rates was accompanied by a 21 percent increase in the average number of basic channels offered (i.e., from an average of 26.6 stations to 32.1 channels). The United States Telephone Association has suggested that basic service rates increased by 68 percent between 1986 and 1989 (*see* submission of USTA, "Fifty State Summary of Cable Service Fees for 1986 and 1989", Appendix 6, 1990). For reasons to be discussed, we are doubtful that this price increase can be attributed to "trafficking."

[101] That is, we assume that each owner seeks to maximize the discounted present value of the system's profits.

and preferences of the population. Cost is determined by production technology and factor prices faced by the cable system. The fact that a cable system changes hands would not by itself be expected to alter marginal revenue or marginal cost, so it is difficult to see how simply changing ownership would change price or output. To do either would involve a sacrifice of profits.

This conclusion is not altered by adopting more realistic assumptions about cable markets. Cable operators make decisions concerning not just price and output, but also over the quality of service provided.[102] In the short-run, with fixed cable capacity, decisions over product quality (e.g., program choices, quality of signal, maintenance of system) are made so as to earn the highest possible return; in the longer-run, choices on system capacity and other quality-related investments also will be made to maximize returns. As in the simpler analysis, however, it is hard to see why these decisions would change simply from a change in ownership -- or if these decisions do change, why they would change in ways that would make consumers worse-off. The determinants of demand and cost do not change when the system changes hands; hence, neither will the profit-maximizing price, quantity, and quality. If the previous owner was maximizing returns, any departure from this price-quality-quantity combination would again involve a reduction in profits.[103]

The arguments above take on particular force if it is true that the selling prices of cable systems have been increasing. It is the desire to earn capital gains from the purchase and resale (at a higher price) of a system that presumably motivates a "trafficker." If a buyer pays an inflated price for a system, and subsequently operates it in a way that fails to maximize current

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[102] *See* Leffler (1982), and Besanko, Donnenfeld, and White (1988).

[103] We are not asserting that managers could not, from time to time, make errors that reduce the value of the firm; rather, we contend that systematic overpricing or underinvestment are unlikely to occur.

profits, it becomes doubtful that the buyer will earn even a competitive return on the investment during its time of ownership.

Such behavior, moreover, tends to reduce the value of the system to any subsequent purchaser if, as seems likely, the system's market value incorporates "goodwill" or "brand name" capital (i.e., the discounted returns to high quality production). For example, if a system develops a reputation for poor quality (subsequent to its acquisition by a "trafficker"), the demand facing this system will fall. This decreases the price that the current (and future) owner can charge for (say) basic service, which consequently decreases present and future profits.[104] Unless prospective purchasers of this system are somehow unaware of this decline in system quality, the price that they will pay for the system subsequent to the quality decline will fall. The "trafficker" will, under these circumstances, suffer a capital loss on its sale of the system.

We have ignored so far the possibility that sales of systems represent the transfer of assets from less to more efficient operators. It seems plausible that many buyers of cable systems will pay a premium for an existing system because they can provide the same service at lower cost, or better service at the same cost, than can the incumbent. The purchaser will keep some of the returns from this superior efficiency (hence its willingness to pay a premium for the asset), but in general will also pass some of these gains on to consumers.[105] Preventing or restricting sales of cable systems would delay such efficient transfers and thus hurt consumers. Quality-adjusted cable rates could be higher, not lower, as a result of restrictions on cable system sales.

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[104] A subsequent purchaser could improve quality. However, this purchaser would probably have to set lower prices for some period of time to lure disenchanted former subscribers back to the system. This postpones the buyer's ability to raise price to compensate for the higher cost of higher quality service, and thus reduces the present value of the system. *See* Shapiro (1983).

[105] A profit-maximizing firm will generally reduce price in response to cost reductions.

For similar reasons, restrictions on "trafficking" could increase the riskiness of cable system investments and accordingly reduce the incentives to make these investments. The risk of an investment is reduced when the investor is able to sell the asset to another party (e.g., should the venture not fulfill its original profit expectations). Because antitrafficking rules lock franchisees into an economic arrangement for a fixed time period, they inhibit the ability of cable operators to recoup any part of the costs of an unsuccessful project until this time period expires.

It is easy to see how antitrafficking rules might deter new investment. First, investors will be less likely to enter previously unserved markets. Making it harder to exit a market in the event of unprofitable entry (perhaps by selling to a more efficient acquirer) will reduce the incentives to enter in the first place. Similarly, "overbuild" competition (i.e., entry into an area with existing cable service) will be deterred. By making exit harder, an antitrafficking rule can discourage entry.

Upgrades of existing systems might also be deterred. For example, a firm that increases its channel capacity might find, *ex post*, this investment unprofitable because (for example) it is a poor marketer. By preventing this firm from selling its system to a more efficient marketer, antitrafficking rules could prevent recoupment of investment costs, and thus deter the firm from making the investment.

Overall, it is difficult to see how restricting "trafficking" would improve consumer welfare. Those who have attributed increases in cable service prices to trafficking may be confusing cause and effect. In the aftermath of cable deregulation, it is possible that cable operators that faced little potential or actual competition were able to exercise market power that had previously been

constrained by price regulation.[106] The capitalized value of any newly-created monopoly returns would have been reflected in an increase in the value of cable systems, as would the increase in value arising from the elimination of any inefficiencies that might have been induced by rate-of-return regulation (*see* § IV of our comments for a brief discussion of these).[107] Moreover, it is clear from the General Accounting Office *Survey of Cable Television Rates* (1989) that the quality of basic service rose after the passage of the Cable Act.[108] Other things held equal, this quality increase would likely be reflected in a higher average price for basic cable service. Thus, to the extent that deregulation induced an increase in the number of system exchanges, as investors pursued possible monopoly or efficiency gains,[109] one might observe (1) higher cable rates, (2) higher system values, and (3) more system exchanges. The direction of causation, however, would be from (1) to (3), rather than the opposite, as some may have suggested.

Allowing the sale of cable systems without regard to duration of ownership would be consistent with existing FCC policies with regard to the transfer of other operating licenses. As noted earlier, in 1982 the FCC abolished its so-called "three year rule." This rule required that a broadcast application for assignment or transfer filed prior to the completion of a three-year holding period be designated for a hearing. In abolishing the rule, the FCC determined

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[106] The possible natural monopoly characteristics of cable markets, as well as the reluctance of local authorities to grant additional franchises, might contribute to a lack of entry in cable markets.

[107] Zupan (1989, p. 409) notes that the stock market value of cable companies rose by 16 percent in the two months following the enactment of the Cable Act. During that same period, the Standard & Poor Index rose 8 percent, and the Dow Jones average increased 6 percent.

[108] According to the GAO *Survey*, the average number of channels received per subscriber on the lowest-priced basic service tier rose from 23.8 in 1986 to 30.1 in 1988. *See* GAO *Survey*, table III.5.

[109] We do not know if there has actually been an increase in the number of cable system transactions since enactment of the Cable Act.

that "allowing the marketplace to operate as to transactions involving [broadcast] stations will undoubtedly lead to better broadcasting in the public interest."[110] Increased reliance on market forces to allocate resources is consistent with other FCC programming initiatives[111] and has ample support in law.[112]

In conclusion, we do not believe that there is a compelling economic rationale for restricting the sale of cable systems. Such restrictions would be unlikely to help, and could in fact harm, cable customers. Accordingly, we do not believe that the public interest would be served by the creation of statutory or regulatory restrictions on the purchase and resale of cable systems.

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[110] *See Notice of Proposed Rulemaking*, In the Matter of Amendment of Section 73.3597 of the Commission's Rules (Applications for Voluntary Assignments or Transfers of Control), BC Docket No. 81-897, at 5-6 (December 30, 1981).

[111] *See, e.g.*, Deregulation of Radio, 84 F.C.C. 2d 968, *reconsid. denied*, 87 F.C.C. 2d 797 (1981).

[112] In *FCC v. WNCN Listeners Guild*, 450 U.S. 582 (1981), the Court held that the FCC's decision to rely on market forces for promotion of radio format diversity is not inconsistent with the statutory requirement that licensing be based upon "public interest, convenience, and necessity."

VII. Vertical Integration and Other Vertical Restraints

Section III of the NOI poses questions on the effects of vertical integration on competition in the different segments of the video services marketplace. Interest in vertical integration between program suppliers and cable systems stems from fears that such vertical relationships may result in anticompetitive "foreclosure." There is concern that vertical integration may alter a firm's incentives to deal with firms that are not integrated with it, and that this change in incentives may reduce, rather than improve, consumers' welfare.[113] There are, however, both anticompetitive and procompetitive reasons for vertical integration and other forms of vertical control. What follows is a review of the theoretical literature relevant to an understanding of the competitive effects of vertical controls, as well as an overview of the empirical studies that have attempted to assess the effects of vertical integration between program suppliers and cable systems.

A. Economic Theories of Vertical Integration and Control

Although the NOI inquires specifically about *vertical integration*, it is important to emphasize that vertical integration is but one of many forms of vertical control. Whether its motives are pro- or anticompetitive, a firm may be able to select from an array of vertical controls that can, in principle, yield similar profits. In fact, there is a substantial theoretical literature

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[113] This concern was raised by a number of respondents to the NOI. *See, e.g.*, Statement of Michael E. Cortese, Chairman of the National Private Cable Association and President of Western Cable Communications, Inc., Before the Federal Communications Commission Los Angeles Field Hearing, February 12, 1990; Statement of Milton Katz, Chairman of the Board & CEO, Malrite Communications Group, Before the Federal Communications Commission Los Angeles Field Hearing, February 12, 1990; Testimony of George Ring, Chairman, Cross Country Telecommunications, and Member, Wireless Cable Association, Before the Federal Communications Commission Los Angeles Field Hearing, February 12, 1990; and Statement of Michael Pandzik, President, National Cable Television Cooperative, Before the Federal Communications Commission Los Angeles Field Hearing, February 12, 1990.

demonstrating that when certain carefully specified conditions are fulfilled, a variety of different vertical controls are equivalent, in that each yields (1) the identical profits to the firm imposing the control, and (2) the identical price and output to consumers.[114] In reality, however, it seems unlikely that the conditions for equivalence will be met. The particular control chosen in any given instance will be determined by the costs of writing, monitoring, and enforcing different types of contracts, and by the particular characteristics of production and distribution. Contracting costs can be substantial, and can vary across industries, across firms within an industry, and over time, depending upon a variety of circumstances.[115]

Accordingly, firms cannot always costlessly substitute one vertical control for another. Controls that are equivalent in a world of perfect information and costless enforcement may differ substantially if these assumptions are relaxed. To determine which controls are best suited to their

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[114] *See* Blair and Kaserman, 1983, ch. 4. The principal alternatives to vertical integration are output royalties, sales revenue royalties, and lump-sum entry fees paid by downstream firms to upstream firms. The equivalency of these alternatives has been theoretically established under the assumptions that (1) the downstream industry is perfectly competitive, (2) downstream firms have identical, constant-returns to scale production technologies, and (3) downstream demand is constant and known by all parties with certainty. If these conditions are not fulfilled, the different vertical controls will generally not yield the same results.

Additionally, these alternatives generally will not be equivalent once transaction costs are taken into account. Successful implementation of a royalty scheme, for example, requires that the upstream firm be able to monitor the output or revenue of the downstream firm (who will have an incentive to evade the royalty payments by understating sales or output). The lump-sum payment (whereby the upstream firm charges a lump-sum fee to downstream firms for the right to buy the former's product) requires considerable information, since the profit-maximizing fee will vary across geographic markets if there is geographic variation in downstream demand. Also, if the downstream average cost curve is "U-shaped", rather than flat (i.e., the downstream production technology does not exhibit constant returns to scale), then the lump-sum contractual alternative will fail to yield profits to the upstream firm equivalent to the profits from integration. *See* Blair and Kaserman, p. 75.

[115] Analyzing the determinants of these costs, and their implications for the vertical structure of an industry, is the focus of the "transactions costs" literature. *See*, for example, Klein, Crawford, and Alchian (1978) and Klein and Murphy (1988).

economic environment, firms may engage in experimentation and adaptation. Experimentation may be particularly important when shifts in demand and technology cause the economic environment to evolve rapidly.

1. Incentives for Programmers to Adopt Restricted Distribution

The possible economic incentives for upstream firms (e.g., "programmers") to impose restraints upon a downstream firm (e.g., a given distributor) are numerous. The most general view of the purpose of vertical restraints is that they are means by which a "principal-agent" problem is solved.[116] The distributor is the agent of the programmer (the principal), and may have incentives that differ from those of the programmer.[117] One purpose of vertical restraints is to align these otherwise incompatible incentives.

There are a number of reasons why these incentives may differ, and therefore why an upstream firm may wish to integrate vertically, or adopt other vertical controls. These differences in incentives may relate to (1) the efficient marketing and promotion of the product by distributors, (2) constraining the exercise of market power by distributors, (3) avoiding certain market distortions arising from upstream market power, (4) increasing barriers to entry, and (5) evading rate-of-return regulation. These motives are not mutually exclusive, and all may be present to some degree in the video marketplace.

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[116] *See* Ippolito (1988), p. 13, and the references cited therein.

[117] As Ippolito (p. 13) notes, the incentives will "depend on the information available to both the dealer and the manufacturer, the ease with which the manufacturer can control various actions of the dealer, and other market factors, such as the relative risk aversion and the comparative efficiencies of the parties in providing particular services related to selling the product and determining its quality."

a. Inducement of Marketing and Promotion Efforts

In many settings upstream firms will find it efficient to arrange for distributors to market and promote the product or service. In the case of cable television programming, it appears that some programmers find it desirable to have their distributors (e.g., cable systems) engage in advertising through local media, and to engage in tightly focused marketing efforts (e.g., direct mail and telephone solicitation of nonsubscribers). It might be efficient for the distributor, rather than the programmer, to invest in these efforts because of the distributor's greater familiarity with the characteristics of consumers in a particular geographic area. If it is infeasible or inefficient for the programmer to finance all of this activity itself, thus requiring the commitment of resources by distributors, the danger arises that some distributors of the program might attempt to "free-ride" on the promotional efforts of others. Unless this free-riding can be constrained, distributors will have a disincentive to invest in promotion, since some of the attendant increase in demand will be captured by rival distributors.[118]

Under conditions such as those described above, it may be in the programmer's interest to adopt a restrictive distribution policy.[119] The programmer might, for example, grant its distributors "exclusive sales territories," which would permit one designated distributor to solicit potential customers in one particular area (and only in that area). Other potential carriers of the program (such as overbuilders and MMDS) would not be allowed to distribute the program to customers in that area. Adoption of such a policy would not necessarily involve vertical integration with the distributor; exclusive

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[118] For example, a SMATV operation (i.e., a private cable system that serves (say) a multi-dwelling complex) that is located within the area served by a franchised cable operation might be able to engage in this sort of free-riding.

[119] When challenged under the antitrust laws, nonprice vertical restraints are analyzed under the Rule of Reason. *Continental T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1977).

sales territories conceivably could be granted through explicit or implicit contracts. Vertical integration might become attractive, however, if it is costly to enforce such contracts (e.g., distributors may continue to try to invade each other's territories).[120] Ownership of the downstream entity might sometimes be the least-cost way of preventing such activity.[121]

A related incentive for vertical control can arise when a distributor's failure to provide high-quality distribution services diminishes the value of a upstream firm's product. For example, a poor quality cable distributor (such as one whose signal is frequently interrupted, whose system maintenance is poor, or who provides a poor signal) will have fewer subscribers than a high quality operator, and, in turn, any given program supplier will have fewer potential subscribers and lower profitability.

Video programmers might also have an incentive to restrict distribution if they are concerned about the inability of certain types of distributors to provide signal security. Certain distribution technologies, such as multipoint distribution services (MDS), distribute their signals locally using microwave transmission. Even if these signals are "scrambled" to prevent unauthorized reception, it is sometimes possible for persons to obtain de-scrambling equipment from suppliers that have managed to duplicate the de-scrambling technology. If so, it may be possible for persons to receive certain video signals without compensating the suppliers of the programming. This phenomenon, if it occurs on a sufficiently large scale, might reduce program suppliers'

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[120] Vertical integration might also become attractive if distributors fear post-contractual opportunism by upstream firms (e.g., a programmer might license other distributors after the incumbent distributor has made sunk promotional expenditures). *See* Klein, Crawford, and Alchian (1978).

[121] Creation of an exclusive sales territory also provides the distributor with a local monopoly in the sales of that product. The upstream firm will wish to constrain the exercise of any market power associated with this monopoly; vertical integration may be the most efficient method for this. This issue is described in greater detail below.

incentives to permit their signal to be distributed by firms using these technologies.

In many situations, the upstream firm can arrange adequate marketing and promotion efforts by combining some contractual vertical restraint with the threat of dealer termination for inadequate performance.[122] This approach would be feasible when there are numerous possible distributors in any particular geographic market, since the upstream firm can easily find replacements for the inefficient distributor. It might not be credible to threaten a distributor with termination, however, when alternative distributors are not present (as may often be the case with cable distribution), since there may be no other way of reaching a large number of potential customers. In such an instance, the least-cost method for ensuring that the distributor provides the desired level of quality might be to vertically integrate program production with distribution. The extent to which integration between cable systems and programmers has been motivated by a desire to ensure adequate marketing and promotion is not known, however.

b. Constraining the Exercise of Market Power by Cable Operators

An upstream firm that faces a downward-sloping demand curve will have an incentive to impose controls on its distributors if the latter have market power in the resale of the former's products. When firms at each stage of production can raise price above marginal cost, a "double marginalization" problem may exist. "Double marginalization" reduces the combined profits of the distributor and the producer, as well as total output. The problem is potentially correctable through vertical integration and other vertical controls.[123]

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[122] *See* Klein and Murphy (1988).

[123] Analysis of this issue was first presented in Spengler (1950).

The problem is easiest to illustrate by assuming a monopolist at each of the two stages of production. Each monopolist will set marginal revenue (instead of price) equal to marginal cost (hence the term "double marginalization"). The upstream firm sets a monopoly price by equating its marginal revenue to its marginal cost. The downstream firm also sets a monopoly retail price by equating its marginal revenue to marginal cost; the latter's marginal cost will reflect the upstream monopoly price charged to it. In this case, total output will be smaller, and price charged to ultimate consumers higher, than if both monopolists were under the control of a single entity.

The upstream firm has an obvious incentive to constrain the exercise of downstream market power (and the downstream monopolist has an incentive to constrain the exercise of upstream market power). When a distributor exploits market power, it raises the price to consumers above the price that would prevail under competition; the quantity sold to consumers falls. This rise in price in turn reduces the (derived) demand facing the producer, and therefore the price that the upstream firm can charge for its product, clearly making the upstream firm worse-off.

If these firms merge, the integrated producer will no longer "charge itself" a monopoly upstream price when it transfers its product to its downstream subsidiary; rather, it will internally price the good at marginal cost. It continues to set a monopoly price for the final good; but since the downstream subsidiary's costs are now lower because an input price has fallen, its profits after integration will be greater than the combined pre-integration profits of the two firms operating independently of one another.[124] When the firms do not operate at cross-purposes, total profits will rise. Consumers are also apt to benefit from the integration of the two monopolists. If the upstream price falls, downstream marginal cost will also fall. The new profit-maximizing

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[124] *See* Blair and Kaserman (1983), p. 31.

downstream monopoly price will, therefore, be lower, and downstream output larger, as a consequence of the vertical integration.

"Double marginalization" issues could arise when a producer deals with more than one distributor. For example, an upstream firm may sell to a number of distributors, each of which has some market power in its own geographic market. This market power could arise from a number of sources, such as government entry regulations, scale economies (i.e., natural monopoly), or even the producer's own decision to grant exclusive sales territories (see above).

This situation might be applicable to the relationship between program suppliers and cable systems. Cable operators may have market power in their franchise areas owing to some combination of the three factors listed above. If so, a program supplier will have an incentive to adopt measures that constrain each system's ability to raise consumer prices. For example, if the program supplier cannot authorize additional distributors (e.g., because of downstream entry barriers) or chooses not to do so (e.g., because potential free-riding among distributors makes it desirable to grant exclusive sales territories), it may try to limit the distributor's exercise of market power through other means. One contractual possibility is to impose *maximum* resale price maintenance on the distributor; i.e., contractually forbid the distributor from charging subscribers a price that exceeds some specified level.[125] There are several possible drawbacks to this approach, however. First, program suppliers may be legally constrained from imposing maximum resale prices. Historically, maximum resale price maintenance (RPM) has been accorded the same status as *minimum* resale price maintenance: *per se* illegality.[126] Thus, firms may perceive that

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[125] *See* Blair and Kaserman, pp. 35-6. Another contractual alternative is the use of performance standards, such as minimum output quotas.

[126] *See Kiefer-Stewart Co. v. Joseph E. Seagram and Sons, Inc.*, 340 U.S. 211 (1951)

there are legal constraints on their ability to write and enforce a maximum RPM agreement.

Second, even without legal constraints, entering and monitoring compliance with the maximum RPM contract could be costly if there are a large number of distributors. Third, RPM is not a good substitute for vertical integration when there is uncertainty and risk-aversion. For example, the inability of a distributor to raise price to cover unexpected increases in retail costs forces the distributor to bear all of the risk of retail cost variations.[127]

Yet another contractual alternative to vertical integration is the use of a "franchise fee" (sometimes referred to as a "two-part tariff") by the upstream firm.[128] Under this method, the price charged by the upstream firm consists of two parts: a flat fee for the right to buy the product, plus a per-unit price.[129] The basic approach is to set the per-unit price equal to upstream marginal cost, which induces the downstream firm to choose the same output level that would be chosen under vertical integration. The flat fee is then set at a level that expropriates the increase in downstream profits that are generated by the lower per-unit price. Under some circumstances, the two-part tariff can completely solve the upstream firm's problem. These conditions are fairly restrictive, however. Tirole (1988, p. 177) concluded that "[f]ranchise fees, in general, will not suffice to realize the vertically integrated profit."[130]

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[127] *See* Tirole (1988, p. 177).

[128] *See* Tirole (1988, pp. 176-86).

[129] In other words, the total payments from the retailer to the upstream firm equal $F + p_w q$, where F is the flat fee, p_w is the wholesale price, and q is the number of units of output purchased by the retailer.

[130] As we noted earlier, a franchise fee scheme requires a great deal of information if the upstream firm is to replicate the profits that would be available through vertical integration. For example, the profit-maximizing fee will vary across geographic markets if there is geographic variation in downstream demand; the upstream firm would require information on the degree of this variation to set the correct fees. Second, if the downstream (continued...)

c. Vertical Restraints to Avoid Distortions From Upstream Market Power

When an upstream firm has market power,[131] it will raise its price above the competitive price and will reduce its output below the competitive level. If this firm's output constitutes an input into the production of some "final" good, the producers of this final good will attempt, to the extent permitted by technology, to substitute other, competitively-priced inputs for the input that is priced supracompetitively. The downstream firms' input choices become "distorted" by the existence of a supracompetitive price for the monopolized input. In such instances, the producer of the input can increase its profits if it can eliminate this distortion while continuing to exercise market power.[132]

Vertical integration is one means by which the distortion can be eliminated. When the monopolist acquires a downstream user, it can increase the combined profits of the two entities by eliminating this distortion; i.e., by transferring the input to its downstream subsidiary at a competitive, rather than supracompetitive price. The vertically integrated monopolist captures for itself the increase in profit that is created by the now-efficient choice of inputs. Further, as long as there are other downstream firms making inefficient input

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[130](...continued)
average cost curve is "U-shaped", rather than flat, then the lump-sum contractual alternative fails to yield equivalent profits to the upstream firm. *See* Blair and Kaserman, p. 75. Third, if the downstream demand curve is subject to random variation, the franchise fee transfers all of the associated risk from this variation to the distributor. If the distributors are risk-averse, this requires that the upstream firm adjust the flat fee and the wholesale price to redistribute the risk. These computations become complex if dealers differ in their degree of risk aversion. *See* Tirole, p. 177.

[131] We define "market power" in terms of the elasticity of the residual demand curve facing the firm. The lower the value of this elasticity, the greater the degree of the firm's market power. This residual demand elasticity will be jointly determined by (1) the firm's market share, (2) the (price) elasticity of the market demand function, and (3) the (price) elasticity of the fringe supply. *See* Landes and Posner (1981).

[132] *See* Schmalensee (1973); Warren-Boulton (1974); Mallela and Nahata (1980); Westfield (1981); Quirmbach (1986); Also see Blair and Kaserman, ch. 4.

choices (because the monopolist continues to charge them a monopoly price), there is a profit incentive for the upstream monopolist to acquire them as well.[133]

Whether programmers are using vertical restraints to resolve a problem arising from input distortion is uncertain. The answer depends upon whether (1) programmers have market power, and (2) cable operators can substitute among different programming sources. Unless condition (1) holds, there can be no monopoly price distortion, and thus no distortion-induced incentive to integrate. If condition (2) does not hold (i.e., if cable operators cannot substitute less expensive programming), there is again no distortion-induced incentive to integrate.[134]

Whether condition (1) holds is an empirical question on which we have little information. We do not address it further. Concerning condition (2), it may be plausible to characterize cable systems as using a variable proportions production technology. For example, cable operators may offer subscribers different "packages" (or "tiers") of service that are made up of different collections of programming services.[135] The lowest tier might consist of local broadcast stations and one or more "superstations." The next tier ("expanded basic") might consist of basic service plus channels like TNT, USA Network, ESPN, and American Movie Classics. Higher tiers would have additional channels (e.g., HBO). Clearly, an operator's choice of programs to include in each tier may be determined in part by the price set by the programmer.

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[133] *See* Schmalensee (1973). Whether the complete monopolization of the downstream industry would likely raise or lower the price of the final good is discussed below.

[134] If downstream production is characterized by so-called "fixed proportions," then any upstream market power can be fully exploited simply by setting a monopoly price upstream. In this setting, incentives to vertically integrate arise from some other source.

[135] For a description of recent innovations in this area, see "New Fees Alter 'Basic' Idea of Cable TV," *Wall Street Journal*, January 23, 1990, p. B1.

Increases in the price of a program may give operators an incentive to shift it into a higher-priced tier (replacing it in the lower tier with a less expensive program) where it will have fewer subscribers, or perhaps to drop it altogether.

It may thus be plausible to apply the "variable proportions" model at least to the downstream portion of the video marketplace. If there is market power upstream, an incentive to integrate vertically (or impose other vertical controls) may be present. The question would then arise as to the competitive implications from adopting such controls. The answer depends upon (1) the competitiveness of the downstream market (prior to the imposition of the vertical restraints), (2) the elasticity of demand facing the downstream producer,[136] and (3) the extent to which cable operators can engage in the sort of substitution described above. If the downstream market is competitive (before integration), its subsequent monopolization through complete vertical integration would help consumers by eliminating the monopoly input-distortion (i.e., since the program would be transferred at marginal cost, not a monopoly price), but would hurt them by transforming a competitive market into a monopoly market.[137] It is not possible to generalize about which effect is likely to dominate.[138] If, by contrast, the downstream sector was already a monopoly *before* the integration occurred, then (as discussed earlier) there is a greater likelihood that the merger will benefit consumers.

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[136] If the upstream firm buys all of the downstream firms, thereby monopolizing the downstream industry, the markup of final good price over marginal cost will depend upon the elasticity of final good demand.

[137] Complete vertical integration in this context means that the upstream monopolist acquires all of the previously independent downstream firms.

[138] *See* Quirmbach (1986).

Waterman (1987) analyzes the incentives to integrate vertically when the upstream production is characterized by increasing returns to scale.[139] Waterman argues that the costs of programming (or, more generally, "information products") are largely fixed; i.e., once a firm assembles a package of programs, the additional cost of making it available to an additional subscriber is small. If true, this would mean that the marginal cost (per subscriber) of programming is below average cost (per subscriber), implying that the average cost of programming declines as the number of subscribers increases.

For a programmer to cover its costs, the average revenue (per subscriber) must be at least as high as average total cost. Under Waterman's analysis, a nonintegrated downstream firm will treat this average total cost as the relevant upstream price when making its input choices; an integrated firm, by contrast, will treat the marginal cost as the relevant wholesale price when making its input decisions. This, in turn, should give the integrated system an incentive either to reduce its resale price or to "favor" its own network. Such behavior could be both profit-maximizing and welfare-enhancing.

There are models other than those discussed above that analyze vertical mergers under alternative market structures (e.g., oligopoly at both stages of production) and alternative specifications of downstream substitution possibilities.[140] Though the detailed analysis is different, all of these models yield a similar result: the effect of vertical integration on final price cannot be generalized; sometimes price will rise, sometimes it will fall.

The theories discussed above identify a number of situations where

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[139] In contrast to the "variable proportions" model analyzed above, Waterman does not assume the existence of upstream monopoly, but rather assumes a monopolistically competitive upstream market. The downstream market, by contrast, is assumed to consist of a collection of spatially separated firms, each of which may have market power in some local market.

[140] *See* Waterson (1982); Salinger (1988a); and Abiru (1988).

vertical controls could potentially increase efficiency and improve consumer welfare. Whether, and to what extent, these theories apply to the cable industry is not known. In the ensuing section, we discuss how vertical integration may be used for anticompetitive purposes.

d. Vertical Integration as a Source of Entry Barriers

The 1984 Department of Justice *Merger Guidelines* discuss whether a vertical merger might have anticompetitive effects.[141] The discussion focuses on a product market in which, but for ease of entry, conditions are favorable to the exercise of market power, and asks whether a vertical merger might reduce entry so that market power could be exercised. The Guidelines identify three necessary (but not sufficient) conditions for this problem to exist. First, the market where the market power would be exercised (the "primary" market) must be sufficiently conducive to anticompetitive behavior that the impact of vertical integration in reducing entry would allow such behavior to occur. Second, the degree of vertical integration subsequent to the merger must be so extensive that an entrant into the primary market would also have to enter the other market (the "secondary" market). If substantial unintegrated capacity remains in the secondary market after the vertical merger, it is less likely that the merger will facilitate an anticompetitive outcome. Third, the requirement that a firm enter both the primary and secondary markets (rather than just the primary) must make entry into the primary market significantly more difficult and therefore less likely to occur.[142]

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[141] *See* § 4.21. Also see Blair and Kaserman, pp. 42-4, and Fisher and Sciacca (1984), especially pp. 22-27.

[142] We noted before that there may be contractual alternatives to vertical integration. The same may be true here. For example, the effects of vertical integration might occur through an arrangement whereby an upstream firm grants a distributor an exclusive territory in exchange for exclusive distribution (i.e., the distributor carries only the upstream firm's product).

How might the necessity of vertically integrated entry create an entry barrier? Economists have identified conditions under which this could occur. Fisher and Sciacca (1984) provide an extensive discussion.[143] The possibilities of greatest relevance to the cable television context are (1) when potential entrants are less efficient at the one stage of production than the other; (2) when the minimum efficient scales (MES) of production at the different stages are such that the addition of a fully integrated MES entrant adds more capacity to the market than can be profitably absorbed;[144] and (3) when the risks associated with integrated entry raise capital costs. We discuss these possibilities below.

i. Differential rates of efficiency

Let us suppose that the upstream ("primary") market is favorable to noncompetitive behavior among incumbents, and therefore that the incumbents are already protected from entry. Suppose further that entry into the downstream ("secondary") market is easy. Can the existing producers in the primary market make entry even less likely by integrating into the secondary markets?

By assumption, vertical integration is unlikely to make entry into the primary market more difficult, since entry into the secondary market is presumed easy. If a potential entrant into the primary market could have overcome whatever entry barriers existed before the incumbents integrated into the primary market, then presumably the entrant would not be any more deterred by a requirement that it also enter into the secondary market. This certainly would be true if the potential entrant into the primary market could

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[143] *See* Fisher and Sciacca, pp. 22-27 for a detailed discussion; also see § 4.212 of the *Merger Guidelines.*

[144] That is, the post-entry price would be below the average cost of the entrant, which will deter entry.

operate in the secondary market as efficiently as the incumbent primary producers. However, if the potential entrant into the primary market was less efficient than the incumbents, then perhaps primary entry could be deterred if the incumbents' price was increased by no more than the difference in efficiency in the secondary market. Note, however, that the incumbents' price may not be increased if the potential entrant, even if not itself an efficient producer in the secondary market, could contract for (or make other arrangements) for entry into the secondary market by a producer as efficient as the incumbents. Primary market entry would then be deterred only if making these alternative arrangements were more costly than the vertical integration by the incumbents. This seems somewhat unlikely, but it remains an empirical question.

Fisher and Sciacca also discuss whether vertical integration could reduce two-stage entry when "high" barriers to entry exist at each stage. They consider a situation where the "least disadvantaged" potential entrant into one stage is different from the "least disadvantaged" entrant into the other. Whether vertical integration by incumbents reduces the likelihood that these firms would enter is an empirical issue: is it more difficult for the potential entrants to replicate what the incumbents have done, which is to combine "economic agents with comparative advantages at [one stage] with agents with comparative advantages at [another]?"[145] It is difficult to generalize, *a priori*, how burdensome this coordination problem is likely to be; the answer will depend upon the particular circumstances of any given case.[146]

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[145] Fisher and Sciacca, p. 24.

[146] It is tempting to conclude that this coordination problem is likely always to be insurmountable, since firms cannot contract for a joint venture or merger until the firms are first created, and in turn these firms will not be created unless the efficiencies of vertical integration can be exploited. This view overlooks the possibility that entry often occurs through diversification by existing firms. Thus, one can conceive of situations where two existing firms (continued...)

ii. Different minimum efficient scales

The *Merger Guidelines*[147] discuss whether substantial scale economies at one stage (e.g., the primary market) could, if combined with the necessity of two-stage entry, create an entry barrier. The idea is that by requiring two-stage entry the incumbents in the primary market could force a potential entrant to (1) add more capacity to the market at the one stage than can profitably be absorbed (i.e., thus forcing price below the entrant's average cost), or (2) enter one stage at an inefficiently small scale[148] (thus incurring higher average costs than the incumbent producers). Either could allow the incumbents to raise price and profits without attracting entry which would have occurred absent the integration by the incumbent producers.

Fisher and Sciacca illustrate this possibility with an example.[149] Suppose that the primary and secondary markets are unintegrated, and that the primary market can accommodate exactly three minimum efficient scale (MES) single-plant firms, and the secondary market can accommodate exactly 12.5 MES single-plant firms. A competitive equilibrium would exist when upstream output equalled three times the upstream MES, and downstream output 12.5 times downstream MES. There could be at most three MES upstream firms, and 12 downstream MES firms, in this equilibrium.[150]

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[146](...continued)
form a joint venture, with one diversifying into manufacturing, the other into distribution.

[147] *See* § 4.212. Also see Fisher and Sciacca, pp. 24-5.

[148] Alternatively, the entrant could add a MES plant, but operate it at an inefficiently low level of output.

[149] *See* Fisher and Sciacca (1984), pp. 24-5. The situation described can be considered a special case of a more general problem in which an incumbent seeks to deter entry through investments in excess capacity. *See* Gilbert (1986) for a discussion of these models.

[150] Each downstream firm would produce slightly more than the MES output.

Although the upstream stage could accommodate up to three firms, there need not be three firms in equilibrium. If long-run costs are flat after MES is reached, one could have, for example, two firms, each producing 1.5 the MES output. As Fisher and Sciacca point out, however, these two firms could not successfully raise price above cost, as the upstream market could accommodate a third MES entrant.

The situation might differ, however, if there were complete vertical integration. Suppose that there are two upstream firms, each owning six downstream plants, and that each refuses to purchase from *de novo* upstream entrants, thus requiring an entrant to build one upstream plant and one downstream plant. Given the specific market conditions outlined above, the addition of this new downstream plant would add more capacity to the market than could be profitably absorbed if the market price equalled minimum average cost. Unless the entrant expected above-competitive pricing to prevail *after* entry, it might be deterred from entering. This would make conditions more favorable for successful collusion among the incumbents.

iii. When Added Risk Raises the Cost of Capital

The *Merger Guidelines*[151] observe that because two-stage entry requires a larger investment than one-stage entry, vertical integration could increase entry barriers. The conditions under which this could occur are carefully defined. The *Guidelines* note that increasing the magnitude of the investment necessary for entry will not necessarily act as an entry barrier. A problem is likely to arise only if there is an asymmetry in capital costs between incumbents and potential entrants. Such asymmetries could arise because the assets required for entry are long-lived and "sunk" (i.e., have little or no value should entry

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[151] *See* § 4.212 of the Guidelines; also see Fisher and Sciacca, pp. 25-6.

prove unsuccessful).[152] Of course, an entrant attempting only single-stage entry would also have to make these sunk cost investments.[153] To the extent that sunk cost investments discourage entry, this will be true whether or not incumbents are vertically integrated. The relevant question is whether the need to enter as a vertically integrated producer *differentially* increases the risk of entry. Fisher and Sciacca note[154] that there exists little evidence (and that which exists is mixed) whether capital requirements create entry barriers. Little empirical research has been conducted on the extent to which vertical integration raises capital-market entry barriers.

e. Vertical Integration to Avoid Rate-of-Return Regulation

An incentive to integrate vertically may exist when a firm possessing market power is subject to rate-of-return regulation. Should cable systems become subject to comprehensive rate-of-return regulation, the effectiveness of this regulation may be adversely affected by extensive vertical integration.

Under effective rate-of-return regulation, the regulator permits the firm to charge a price that covers its variable costs and provides it with a "competitive" return on its investment. A drawback to rate-of-return regulation is that the regulator is often dependent upon the firm for cost information. This may allow the firm to exaggerate its reported costs and thus receive a higher price (rate-of-return) than if the regulator knew the firm's true costs.

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[152] *See* Baumol, Panzar, and Willig (1982), pp. 296-301, for a theoretical exposition of how sunk cost investments create capital cost differentials between incumbents and potential entrants.

[153] The *Guidelines* argue that a capital cost barrier could arise if suppliers of capital believe that a firm likely to be an efficient entrant at one stage does not possess the skills and knowledge necessary for entry at another, and accordingly demand compensation in the form of a risk premium. Fisher and Sciacca argue persuasively (p. 24, n. 52) that this is really an efficiency differential as described above.

[154] Fisher and Sciacca, p. 26.

By vertically integrating, the regulated firm may be better able to pursue this strategy. The reasoning is straightforward. If the firm purchases inputs on external markets, the regulator may be able to observe the prices actually paid or at which purchases could be made. If so, the firm will find it difficult to misrepresent the price paid for inputs. If the inputs are transferred internally, the firm may be able to inflate the transfer prices. This inflates the firm's rate base, and thus the price that it will be permitted to charge to earn its allowed rate-of-return.[155]

B. Empirical Evidence on Vertical Integration in the Video Marketplace

Although vertical integration between program suppliers and cable systems is currently the focus of a heated policy debate, it has not been subjected to extensive empirical analysis. We are aware of only two such studies: Klein (1989), and Salinger (1988b). Salinger attempted to determine whether vertically integrated firms are less likely to carry the programs of nonintegrated suppliers. Klein also attempted to address this issue, as well as the question of whether integrated firms are unwilling to sell their programs to alternative video distributors (e.g., MMDS and SMATV). These papers provide valuable information on behavioral differences between integrated and nonintegrated cable systems. Below we summarize these studies.

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[155] *See* Blair and Kaserman (1983), pp. 110-14. Along these lines, the FTC has challenged vertical acquisitions when one of the parties to the transaction was subject to rate-of-return regulation. For example, on June 25, 1986, the Commission accepted a consent order with Occidental Petroleum Corporation (a producer and marketer of oil, gas, and coal) and MidCon Corporation (an owner and operator of natural gas pipelines), FTC Dkt. No. C-3191. In the accompanying complaint, the Commission alleged that Occidental's acquisition of the stock or assets of MidCon violated Section 7 of the Clayton Act, as amended (15 U.S.C. § 45), and Section 5 of the Federal Trade Commission Act, as amended (15 U.S.C. § 18).

1. The Salinger Study

Salinger sought to determine whether vertical integration affects (1) the decision to carry a particular premium pay service (HBO, Cinemax, Showtime, and The Movie Channel), (2) the price of premium services charged to consumers, (3) the price of basic service, and (4) the number of premium services offered. Salinger used data (drawn from the 1987 *Television and Cable Factbook*) on a sample of 217 integrated and nonintegrated cable franchises. The franchises included in the analysis were all owned by the twenty largest multi-system operators (MSOs). Controlling for a number of other factors that might explain prices and program offerings,[156] Salinger first estimated "probit" equations for each of the four premium movie services.[157] These equations estimate the probability that a particular cable franchise would carry a particular movie channel. Included as explanatory factors are a dummy variable that indicated whether the franchise was owned by Time, Inc. (the parent of HBO and Cinemax, and 80 percent owner of American TV and Communications Corp. (ATC), an MSO), and a dummy variable that indicates whether the franchise was owned by Viacom (the owner of Showtime and The Movie Channel). The results indicated that, compared with the other franchises in the sample, Viacom cable franchises were less likely to carry HBO and Cinemax.[158] Similarly, ATC franchises were more likely to carry Cinemax, and

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[156] The explanatory variables in Salinger's equations are number of homes passed, ranking of size of the television market in which the cable franchise competes, age of system, and the ratio of homes passed to total miles of cable.

[157] Probit estimation is a statistical technique frequently used when the dependent variable is discrete (rather than continuous). In Salinger's model, the dependent variable takes on a value of "1" (when the cable system carries a particular programming service), or "0" (when the system does not carry the service).

[158] Viacom systems are *not* more likely to carry The Movie Channel than nonintegrated systems.

less likely to carry The Movie Channel (but not Showtime), than the other cable franchises in the sample.[159]

Although he controlled for a number of potential determinants of programming choices, Salinger did not control for the channel capacity of the franchise in the reported regressions.[160] The Klein study (discussed below) found that channel capacity was significantly related to the number of premium movie services offered by a cable franchise.[161]

In his price regressions,[162] Salinger obtained no evidence that vertical integration affected the price of pay services if looked at alone. He did find, however, that ATC charged a lower price for basic and "extended basic" services than did nonintegrated franchises. Viacom, by contrast, charged a higher price for basic services, but was less likely to have an additional charge for higher levels (i.e., "extended") of basic service.

Salinger's results suggest that ATC and Viacom franchises were somewhat less likely than other cable franchises to carry at least three of the four movie services, but somewhat more likely to carry at least two services.[163] Salinger believes that if the "number of services" regressions had been run using the full sample (i.e., including the Viacom observations that were omitted due

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[159] All of the ATC franchises in the sample carried HBO, and all of the Viacom franchises used in the estimation procedure carried Showtime. Salinger excluded several Viacom observations that did not carry Showtime because of missing data. *See* Salinger, p. 17.

[160] Salinger ran regressions that include channel capacity, but does not report these results. He argues that channel capacity is an endogenous variable, and thus should not be included as an explanatory variable. *See* Salinger, p. 17, note 22.

[161] According to the 1988 *Television and Cable Factbook*, about 37 percent of all cable franchises had a capacity of fewer than 30 channels. Only 7 percent had more than 54 channels.

[162] These equations had essentially the same specification as the probit equations.

[163] This latter result was significant at the 86 percent significance level.

to missing data), the results would likely have shown that ATC and Viacom have no greater propensity to carry at least two movie services than did nonintegrated franchises.

2. The Klein Study

Klein attempted to provide a comprehensive overview of the causes and consequences of vertical integration in the cable industry. Like Salinger, he analyzed the behavior of firms that both produce programming for cable television and operate their own cable systems. Klein asked whether (1) vertically integrated cable systems showed a preference for their own programming (were less likely to distribute programs produced by others), and (2) vertically integrated programers showed a preference for their own cable systems (were less likely to sell programs to others). Klein had less empirical evidence bearing on the second issue than on the first. Accordingly, we review only his analysis of the first issue.

Klein tested for the first preference by examining the programming choices of a random sample of 400 cable franchises. Klein first examined whether the cable franchises having an ownership interest in a particular program supplier[164] were more likely to carry that service than were unaffiliated cable systems. Unlike Salinger, Klein did not use a multivariate analysis to control for other determinants of programming choices; instead, he simply computed "carriage rates"[165] for each programming service (i.e., he computed one carriage rate for affiliated systems, one for unaffiliated systems). To the extent that omitted factors are important determinants of programming choices, and are correlated with vertical integration, Klein's findings will be

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[164] Klein examined "carriage rates" for 28 different programming services (20 "basic" networks, 8 "premium" networks).

[165] The "carriage rate" for a programming service is simply the percentage of cable systems offering that service.

biased in an unknown direction. Like Salinger, however, Klein found that vertically integrated systems were more likely to carry their own programs than were nonintegrated systems. The average carriage rate for affiliated systems was about 15 percent higher than for unaffiliated systems.[166] That is, on average, about 88 percent of integrated systems carried the programming service with which they were integrated; these same programming services were carried by about 73 percent of unaffiliated systems.

Klein next analyzed the programming choices of the four most vertically integrated MSOs[167] (TCI, ATC, Viacom, and Cablevision). The objective was to determine if these MSOs avoided carrying the programming services in which they did not have ownership interests. He first determined which programming services were unaffiliated with at least one of these four MSOs. For example, neither TCI, ATC, nor Cablevision had an interest in Music Television (MTV). Next, for each of the programming services satisfying this criterion, he computed the carriage rate for these unaffiliated MSOs. In the case of MTV, for example, 98 percent of the cable franchises owned by TCI, ATC, and Cablevision carried MTV. Klein then computed, for each of the selected programming services, the carriage rate on *completely* nonintegrated cable systems (i.e., cable systems that were unaffiliated with *any* programming service). MTV, for example, was carried on about 93 percent of these completely nonintegrated systems.[168]

These computations were performed for 24 different programming services. Overall, Klein found that the rate at which vertically integrated MSOs

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[166] There is only about a 2 percent chance that this difference could have been caused by sampling error. *See* Klein, p. 37, note 41.

[167] The extent of vertical integration was measured by the number of networks in which the MSO had an equity interest.

[168] As before, this analysis did not control for any other explanatory factors (e.g., channel capacity of the system).

carried an unaffiliated programming service exceeded the rate at which *completely* nonintegrated systems carried those same programming services.[169] The average carriage rate differential was about 5 percent.[170]

As we observed earlier, Klein did not perform a full multivariate analysis of the decision to carry a particular network. However, as Klein said,[171] his results may have somewhat greater general applicability than do the results of studies confined to carriage rates for the four pay movie channels.

Klein also performed a series of regressions that can be compared with the regressions presented in Salinger's Table 5. Salinger tested for whether vertical integration affects the number of pay services offered to subscribers, and found that ATC and Viacom systems were somewhat less likely than nonintegrated systems to carry at least three pay channels. Klein performed three sets of regressions in which the dependent variables were (i) total number of pay and basic programming services carried, (ii) number of basic programming services carried, and (iii) number of premium programming services carried. Controlling for channel capacity, Klein examined whether the degree of vertical integration (measured by the number of programming services in which the system had an equity interest)[172] affected the number of programming services carried. In all three equations Klein found a strong,

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[169] In 20 of the 24 networks analyzed, the vertically integrated (but nonaffiliated) MSOs had higher carriage rates than did the completely nonintegrated cable systems. The exceptions were Nick at Nite, The Nashville Network, Video Hits - 1, and The Movie Channel.

[170] There is only a 1 percent chance that this difference is due to sampling error. *See* Klein, p. 42, note 44.

[171] See Klein, p. 45.

[172] In the equation explaining premium channel carriage, the explanatory variable was the number of affiliated premium programming services. In the basic channel equation, the explanatory variable was the number of affiliated basic programming services.

statistically significant positive relationship between vertical integration and the number of programming services carried.

This result is not necessarily inconsistent with Salinger's findings. Salinger asked a very specific question: how do the programming choices of Viacom and ATC differ from non-Viacom, non-ATC systems with respect to the carriage of four particular premium movie channels? Salinger did not explore other issues, such as (1) whether there were differences among Viacom, ATC, other vertically integrated MSOs,[173] and completely nonintegrated MSOs with respect to the carriage of the four premium movie services, and (2) whether there were differences among Viacom, ATC, other vertically integrated MSOs, and completely nonintegrated MSOs with respect to other program services (e.g., Disney). It appears, for example, that ATC systems may be more likely to carry Cinemax, and less likely to carry The Movie Channel, than non-ATC systems; it is not yet known, however, whether vertically integrated systems as a group tend to carry more premium programming services, especially when the carriage of all premium programming services (and not only pay movie channels) is taken into account.

3. How Should These Findings Be Interpreted?

Both Salinger and Klein find that vertical integration plays a role in affecting program choices. One finding common to both studies is that integrated cable systems have a greater propensity to carry their own programming services relative to unaffiliated systems. This finding is consistent with both pro- and anticompetitive motivations for vertical integration. Whatever the motivation for vertical integration -- whether to reduce transaction costs, obtain a lower transfer price for pay programming, or

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[173] Many of the non-ATC, non-Viacom systems in Salinger's sample almost certainly exhibited some degree of vertical integration, as his sample consisted entirely of systems owned by the 20 largest MSOs.

facilitate anticompetitive behavior -- a preference for one's own program should be observed. As Salinger states, "[t]he conclusion that can be drawn with the most confidence from [my] results is that vertical integration does matter."[174] However, while acknowledging that it is uncertain whether vertical integration is, on balance, pro- or anticompetitive, Salinger does regard the reduced likelihood that a vertically integrated system will carry at least three premium movie services as a detrimental effect of vertical integration.

We believe that Salinger's results, when viewed alone, and more so when viewed in conjunction with Klein's findings, shed light on the issue of vertical integration. ATC appears to have charged lower prices for basic and extended basic services than did nonintegrated systems. The prices of the different pay services did not depend upon the extent of vertical integration. There is some indication that ATC and Viacom systems were more likely than nonintegrated systems to offer at least two pay services; we note, however, that Salinger has questioned whether this finding would hold if a larger sample had been used.

On the negative side, Salinger's paper suggests that Viacom charged a higher price for basic service than did nonintegrated systems.[175] It also appears that ATC and Viacom may have been less likely than nonintegrated systems to carry at least three of the four primary pay movie channels.[176] It is not clear, however, that this latter result is unambiguously detrimental to consumers. First, this may only reflect the benefits of lower internal transfer prices, as discussed previously.[177] Second, unless a system has unused channels, the fact that it is not showing all of the four programming services studied may mean

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[174] Salinger, p. 23.

[175] Viacom was less likely, however, to impose an additional charge for extended basic service.

[176] It might be useful to know if this result would have changed had the analysis controlled for channel capacity.

[177] *See* the discussion of Waterman (1987), above.

that some other programming service has been substituted for it. This substitution may simply reflect differences in consumer tastes across geographic markets, although we have no data to suggest this is true.

For example, consumers in the ATC and Viacom markets may not have preferred to have all four programming services offered if it meant that something of higher value was displaced. It is conceivable that such consumers might (for example) have preferred American Movie Classics[178] (which mainly offers movies from the 1930s, 1940s, and 1950s) and the Disney Channel[179] (which offers "family" entertainment) instead of (say) Cinemax and The Movie Channel. Klein's data are consistent with this possibility, although as we noted earlier, Klein did not perform a full multivariate analysis of carriage decisions. Almost half of the ATC and Viacom systems in his sample carried American Movie Classics, as compared with about one-fifth of the completely nonintegrated systems; 97% of the TCI, ATC, Viacom, and Cablevision systems carried Disney, as compared with about 93% of the totally nonintegrated systems.[180] More generally, Klein's regression analysis[181] suggests that higher levels of vertical integration (as measured by the number of premium programming services in which a system has an ownership interest) exhibit a positive and statistically significant relationship to the number of premium stations offered on the system.

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[178] AMC is owned by Cablevision, TCI, and United.

[179] Disney is not affiliated with any cable systems.

[180] *See* Klein, table 7, p. 41.

[181] *See* Klein's table II, appendix.

C. Summary

The theoretical literature provides a number of circumstances under which vertical integration or control can promote competition and consumer welfare. There also are some circumstances under which vertical integration can harm consumers and competition. This literature does not yield definitive conclusions about the impact of vertical integration or controls on video markets. The competitive implications of vertical integration and other vertical controls in any particular instance likely depend upon the economic circumstances specific to that instance. The limited empirical evidence on the effects of vertical integration in the video marketplace suggests that cable franchises' choice of programming is affected by the extent of vertical integration. Some of this evidence suggests positive aspects to vertical integration; some suggests negative aspects. While one cannot say, on the basis of the existing literature, that vertical integration in the video marketplace is unambiguously procompetitive, we also cannot say, drawing on this literature, that vertical integration in the video marketplace is unambiguously anticompetitive.

VIII. The Application of the Antitrust Laws to Cable Television

Paragraph 22(e) of the NOI asks whether the Cable Act should be amended to "establish structural rules, or to encourage antitrust action, to prevent mergers among cable systems competing in the same local market." The NOI further asks whether "there is a need to amend the Cable Act to discourage or forbid agreements (with or without franchise authority permission) that enable competing cable systems to divide cable service areas and thus avoid competing against each other in localities where two or more systems are authorized." Currently, the Cable Act is silent regarding antitrust policy; it neither exempts system operators from the antitrust laws nor incorporates specific standards regarding competition.

The antitrust laws (i.e., the Sherman Act and the Clayton Act) and the Federal Trade Commission Act reach all trade or commerce in or affecting interstate commerce.[182] In fact, the scope of these statutes extends to the full constitutional power of Congress under the Commerce Clause.[183] Moreover, federal regulation of a particular industry does not exempt the industry from the antitrust laws except to the extent that there is a "clear repugnancy" between the regulation and the antitrust laws.[184] There appears to be no such conflict between the antitrust laws and either the Cable Act or local regulation. Therefore, courts have applied the full force and effect of the antitrust laws to the cable industry.[185]

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[182] 15 U.S.C. § 1 (Sherman Act); 15 U.S.C. § 12 (Clayton Act); 15 U.S.C. § 45(a)(1) (FTC Act); *McClain v. Real Estate Board, Inc.*, 444 U.S. 232 (1980) (in or affecting commerce standard).

[183] *Hospital Building Co. v. Trustees of Rex Hospital*, 425 U.S. 738, 743 n. 2 (1976); *United States v. South-Eastern Underwriters Ass'n.*, 322 U.S. 533, 558-59 (1944).

[184] *Georgia v. Pennsylvania Railroad*, 324 U.S. 439, 457 (1945).

[185] *See, e.g., Central Telecommunications, Inc. v. TCI Cablevision, Inc.*, 800 F.2d 711, 726 (8th Cir. 1986), *cert. denied*, 480 U.S. 910 (1987) (holding that the Sherman Act applied to a cable system subject to local rate regulation).

The first specific issue raised by paragraph 22(e) concerns mergers between cable systems competing in the same local market. Section 7 of the Clayton Act[186] currently prohibits all acquisitions of stock, share capital or assets that may substantially lessen competition, or tend to create a monopoly. This prohibition is broad in scope, and includes all mergers without regard to their legal form.[187]

We do not believe that the cable industry possesses any characteristics that would necessitate the enactment of unique statutory standards for adjudicating the legality of mergers between competing cable systems. The statutory provisions of Section 7 of the Clayton Act, and the principles articulated in the 1984 Department of Justice *Merger Guidelines*, are sufficiently general to address any competitive issues that are likely to arise in connection with a merger between competing cable companies. The Clayton Act has in fact already been applied to acquisitions of local cable systems by their competitors.[188] We also note that vertical controls (*see* § VII of the comment) are subject to scrutiny under the antitrust laws.[189]

The NOI also invites comment on the question of multiple cable franchises agreeing to divide the franchised territory among themselves, thereby avoiding direct competition. Section 1 of the Sherman Act currently prohibits all contracts, combinations, and conspiracies in restraint of trade or commerce.[190] The Supreme Court has long held that agreements among

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[186] 15 U.S.C § 18.

[187] *United States v. Philadelphia National Bank*, 374 U.S. 321 (1963).

[188] *Cable Holdings, Inc. v. Home Video, Inc.*, 572 F. Supp. 482 (N.D. Ga. 1983).

[189] *See, e.g., Continental TV, Inc., v. GTE-Sylvania, Inc.*, 433 U.S. 36 (1977), and *Monsanto v. Spray-Rite Service Corp.*, 465 U.S. 752 (1984).

[190] 15 U.S.C. § 1.

competitors to divide a territory to avoid competition is illegal *per se*.[191] In *Affiliated Capital Corp. v. City of Houston*,[192] the court specifically held that a division of a franchise territory by cable operators was a sufficient basis for finding a violation of Section 1 of the Sherman Act.

The Supreme Court applies the *per se* rule to a division of a market by competitors because it views the division as "conclusively presumed to be unreasonable and therefore illegal."[193] The rule serves to reduce uncertainty about the legality of the proscribed conduct and reduces enforcement costs by "avoiding an incredibly complicated and prolonged economic investigation . . . to determine . . . whether a particular restraint has been unreasonable."[194]

There are other manifestations of anticompetitive conduct not specifically identified in the NOI that have been previously addressed by the courts. For example, situations have arisen where the franchising system was held to have been used to facilitate anticompetitive behavior. Although local governmental units have a recognized interest in regulating access to the public right-of-way,[195] some franchising authorities, together with incumbent operators, may have used the cable franchising process to restrict competition in violation of the Sherman Act.[196] The history of cable franchising in

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[191] *United States v. Addyston Pipe & Steel Co.*, 175 U.S. 211 (1899); *Ford Motor Co. v. Webster's Auto Sales, Inc.*, 361 F.2d 874 (1st Cir. 1966).

[192] 735 F. 2d 1555 (5th Cir. 1984) (en banc), *cert. denied* 474 U.S. 1053 (1986).

[193] *See Northern Pacific Ry. Co. v. United States*, 356 U.S. 1, 5 (1958).

[194] *Id.*

[195] *See, e.g., Video International Production, Inc. v. Warner Annex Cable Communications, Inc.*, 858 F.2d 1075, 1081 (5th Cir. 1988), *cert. denied*, 109 S.Ct. 1955 (1989).

[196] Although franchising authorities are legally restrained by the prohibitions of the antitrust laws, such authorities, as units of local government, may not be sued for damages. 15 U.S.C. § 35 (a). Injunctive and declaratory relief, however, may be obtained from units of local government.

Sacramento, California may be illustrative.[197] There, the city granted the initial franchise to an affiliate of a large multiple system operator. Another firm later applied for a franchise to "overbuild" the city, but its franchise application was denied. The potential overbuilder then brought suit against the city and the incumbent cable operator, alleging, *inter alia*, a violation of Section 1 of the Sherman Act.[198] The jury found, and the judge agreed, that the city had conspired with the incumbent operator to exclude the overbuilder in exchange for increased cash payments and provision of free cable services to the city government.[199]

Not only may the franchise power be employed to exclude overbuilders, it may also be used against SMATVs, despite the fact that SMATVs are outside the scope of the franchising process.[200] This possibility is illustrated by the experience of Dallas, Texas. There, the city granted an initial franchise to an affiliate of a large multiple system operator.[201] The franchise agreement provided for the largest franchise fee permitted under federal law (5 percent) and stated that "no CATV system shall ... be allowed to operate within the City without a CATV franchise." Pursuant to this provision, the city initiated a campaign against SMATV operators within its territory.

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[197] For a more expansive factual account, see *Pacific West Cable Co. v. City of Sacramento*, 672 F. Supp. 1322 (E.D. Cal. 1987).

[198] *Id.* at 1325.

[199] *Id.* at 1328. The court adopted this finding of fact from the jury's special verdict despite its decision to dismiss the plaintiff's antitrust claims against the city as immune under the state action doctrine. *Id.* at 1325. *See also Preferred Communications, Inc. v. City of Los Angeles*, 754 F.2d 1396, 1411-15 (9th Cir. 1985) (interpreting California statutes to be sufficiently specific so as to constitute a "clearly articulated and affirmatively expressed" state policy to displace competition in the cable television industry), *aff'd on other grounds*, 474 U.S. 979 (1986).

[200] 47 U.S.C. §§ 541-42.

[201] For a more expansive factual account, see *Video International Production*, 858 F.2d at 1077-80.

This campaign was apparently abandoned when it became clear to the city and the incumbent franchisee that the city lacked franchise authority over cable companies that operated without use of the public right-of-way. At this point, however, the city and the franchised cable operator together interpreted the city's zoning ordinances in a manner that would have eliminated the SMATV operators. The largest SMATV operator in Dallas then brought suit against the franchised operator and the city, alleging, *inter alia*, a violation of § 1 of the Sherman Act.[202] The Court of Appeals affirmed the jury's finding that the city had violated the Sherman Act by conspiring with the franchised operator to eliminate SMATVs in exchange for the cash payments mandated under the franchise agreement.[203]

As Section III of this comment explained, restrictions on entry into cable markets are not necessarily anticompetitive; in theory, one can identify circumstances under which a franchising authority might serve consumers' interests by protecting an incumbent cable system from competition. Nonetheless, we suspect that only rarely will such circumstances arise. Therefore, any modification to the franchising process should be carefully designed so that it does not result in cable franchising authorities receiving blanket immunity from the antitrust laws.

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[202] *Id.* at 1080-81.

[203] *Id.* at 1085-86.

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