succeeding. As a result of the efficiencies generated by vertical integration and the difficulties of engaging in foreclosure, we favor relatively high channel occupancy limits.

Our analysis of whether cable operators should be allowed to engage in program production concludes there is no need for setting limits on such behavior. The principal involvement of cable operators in program production has been somewhat indirect, either the consequence of an ownership interest in program services, or because an entity with ownership interests in program production also has ownership interests in cable systems.

We would not expect to see large scale involvement of program services in program production. There are, however, circumstances in which efficiencies in program production are achieved less easily by contract than by vertical integration. We see few risks that anticompetitive behavior would be fostered in such circumstances if cable systems were to take part in program production. Preventing the involvement of cable systems in program production, particularly when it is often indirect, is likely to prevent the achievement of efficiencies while offering few, if any, offsetting advantages.

Finally, we present several reasons why the Commission should implement the anti-trafficking provisions of the 1992 Cable Act in a liberal manner. We recommend that the Commission minimize the extent to which these rules block transfers of ownership because transfers typically will promote the efficient operation of cable

systems without posing a threat that they will lead to higher prices being charged to consumers.

II. Ownership Limits

Section 11 of the new Cable Act requires the Commission to promulgate limits on the number of households any single owner of cable systems can reach. The existence of firms with large shares of a well-defined market, often raises concerns about the exercise of market power. In this section, we analyze whether similar concerns are present in the case of the ownership of cable television systems and whether, therefore, stringent limits should be placed on the number of subscribers (or homes passed) that can be served nationally, or regionally, by cable systems that are under common ownership.[1]

There are four types of transactions in which large MSOs engage that might potentially raise concerns about anticompetitive behavior. First, there are transactions in which cable systems sell their basic, enhanced, and premium services to subscribers. Second, there are transactions in which cable systems sell advertising time in spots that are made available to them by the

[1]Our discussion throughout focuses on the number of subscribers served by any cable system because that is one of the key characteristics affecting the kind of behavior described in the text. However, any ownership limit should be based on the number of homes passed rather than the number of subscribers; otherwise, multiple system operators that are approaching a subscriber limit would have incentives to artificially depress the number of subscribers. Because virtually all local franchise authorities require the wiring of the entire franchise area, comparable disincentives would not arise with a limit on homes passed.

national program services. Third, there are transactions in which cable systems acquire the services that they offer to subscribers from the packagers or producers of those services. Finally, there are the transactions in which cable systems hire the labor that performs the technical and administrative functions that they require in order to operate. The first two of these fall under the heading of potential market power as sellers, and are considered together below. We also address the third issue, the potential for cable MSOs to exercise market power as buyers. The final set of transactions clearly raises no issues of anticompetitive behavior and we do not consider it further.

A. Efficiencies from Multiple System Operation

To give some perspective to our analysis, it is important to recognize that size, per se, is no cause for competitive concerns. Firms may choose to grow to a particular size because that permits them to achieve efficiencies that are not available if they operate at a smaller scale. Moreover, firms that are successful because they operate at lower costs or are better able to meet the demands of consumers, frequently grow to a large size. Penalizing such growth and development risks promoting inefficiency by reducing the incentives and opportunity for efficient growth.[2]

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[2]Of course, relatively large firms that earned dominant status through efficiencies may engage in anticompetitive strategies to maintain a dominant position. An efficient remedy would be one that is targeted to the firm-specific anticompetitive practices. By contrast, a prophylactic ban on growth would sacrifice the efficiencies that drive that growth.

As the Commission acknowledges in its Notice, significant efficiencies may result when cable systems in different geographic markets are under common ownership. These efficiencies take two basic forms, reduced costs of program acquisition and reduced costs of administration and planning for new technologies, services, or both.

In a previous paper that we submitted in the Commission's program access proceeding, we explained at some length how the costs incurred by a program service can be reduced significantly if it can deal with a single entity that negotiates on behalf of a large number of separate cable systems instead of dealing separately with each system.[3] First, there are savings in contracting costs that result when the service can negotiate with a single purchaser rather than having to reach an agreement with a large number of separate buyers. Second, and perhaps more important, there are lower costs of marketing when a single decision-maker can commit to taking a service for a large number of separate cable systems instead of the service having to obtain commitments from many separate operators. Competition among program services for the right to serve the subscribers of large MSOs results in these cost savings being passed on in the form of

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[3]S.M. Besen, S.R. Brenner, and J.R. Woodbury, "Exclusivity and Differential Pricing for Cable Program Services," attached to Comments of Tele-Communications, Inc., before the Federal Communications Commission, In the Matter of Implementation of Sections 12 and 19 of the Cable Television Consumer Protection and Competition Act of 1992; Development of Competition and Diversity in Video Programming Distribution and Carriage MM Docket No 92-265 (January 25, 1993).

lower wholesale prices. This, in turn, may result in lower subscriber rates.

Economies of scale also exist in administration and planning for new technologies and services. Many of the costs of these activities are independent of the number of subscribers being served. Because smaller MSOs will have higher costs per subscriber, they are likely to invest less in planning for new technologies and services.

With regard to innovation, large MSOs have historically played a large role in developing new services, encouraging the introduction of services developed by others, and in supporting existing services through periods of financial difficulty. This behavior is consistent with a growing body of evidence that shows that many important advances originate with users rather than suppliers, or involve a substantial contribution by users.[4]

Because many improvements will not be subject to protection under the intellectual property laws, unless users are large enough to appropriate a significant share of the benefits of these advances they will not undertake the necessary innovative activity.[5] Indeed, smaller MSOs are more likely to wait for others to start a "bandwagon" for a new program service or technology. Therefore, one would expect that innovative activity

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[4]For an excellent study of innovative activity that emphasizes the role of users, see E. von Hippel, The Sources of Innovation, New York: Oxford University Press, 1988.

[5]For service innovations in the cable industry, trade secret protection would also be unavailable.

in the cable industry would be adversely affected if significant limits were placed on cable system ownership.[6]

B. MSOs and the Prices Paid by Subscribers and Advertisers

Measures of ownership concentration have a different meaning for cable television systems than they do for firms in other industries for one very important reason. With very rare exceptions, cable systems serve discrete geographic areas, i.e., they do not compete directly with one another either for subscribers or for local advertising revenues. As a result, one cable system's market power in selling to either advertisers or viewers within any given geographic market is unlikely to be enhanced if the system acquires, or is acquired by, another system serving a different geographic area. Nor for these transactions is the potential for collusive behavior in the industry increased when concentration increases, because cable systems are not direct competitors.

There are two possible exceptions worth noting. First, in theory, a given cable system may encounter a competitive threat from those systems on the edges of its geographic area. However, because there have been so few instances of overbuild competition

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[6] Clearly, some advances in technology and services will originate with firms that supply the cable industry. However, even in these cases, there will some need for suppliers to coordinate with cable systems and only large MSOs are likely to take on this role. For two recent examples see P. Lambert, "TCI: $200 Million for Channel Explosion," Broadcasting, December 7, 1992, p. 5 and H.A. Jessell, "Time Warner Connects to Long Distance," Broadcasting, December 7, 1992, p. 19.

since cable's infancy, this threat is not likely to warrant a limit on national ownership concentration.

Second, there may be interdependent cable advertising demands across geographically proximate areas. One obvious problem with such a characterization is the implicit assumption that cable advertising is a relevant antitrust market. In fact, it is likely that in most, if not all, cases, the smallest antitrust market consists of the advertising of at least all local broadcast stations. This is certainly suggested by the NAB's reasons for seeking a new must-carry rule before the FCC and Congress: broadcast stations and cable systems compete for many of the same advertisers, and the NAB fears that cable operators will not carry them on their systems. In correctly-defined local advertising markets, the share of cable operators in total advertising revenues is quite small.

Even if the merger of geographically proximate systems posed an anticompetitive threat, however, a national limit on the number of subscribers reached will not (except by chance) target what is likely to be a highly localized problem. Arbitrarily defined regional limits on subscribers -- for example, state-wide limits on subscribership -- are no more relevant than national limits. The appropriate geographic scope of such limits would have to be imposed on a costly case-by-case basis.

C. MSOs and the Prices Paid to Program Services

Although it is clear that ownership concentration has no anticompetitive effect on the dealings between cable television systems and subscribers or advertisers, it might be argued that large cable operators can affect the prices that are paid to program services. The concern here is that allowing cable MSOs to exceed some size limit may allow the exercise of increased market power not as sellers of video services to consumers, but as buyers of program services. In other words, this concern would be that large cable MSOs may be able to exercise monopsony power. The exercise of monopsony power, like the exercise of market power by a seller, can reduce efficiency and consumer welfare by inefficiently restricting the availability of services.[7]

In analyzing this issue, it is important to distinguish at the outset between behavior on the part of cable operators that results in a shift of payments from program services to the operators, pure transfers, and that which actually affects the amount of programming that is available to viewers. From the point of view of this paper, we are unconcerned with pure transfers, because they do not affect the efficiency with which resources are allocated.[8]

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[7]It is important to note here that, as in the analysis of the determinants of the prices paid by subscribers and advertisers, cable systems in different geographic markets are not competitors for programs. Because program services are public goods, the sale of a service to a system in one market does not preclude the sale of the same service to a system in another market.

[8]The opportunity to capture these transfers may cause the parties to a transaction to expend resources to position themselves in a strong bargaining position. If such transfers could be prohibited, these resources would not be wasted; however, short of

Thus, we confine our attention to whether it is likely that large MSOs could successfully increase their profits not only at the expense of program services but also at the expense of viewers. In order for a large MSO to use its buying power in a way that adversely affects viewers, it would have to decline to carry some program services that it would otherwise be profitable to carry, and the effect of the reduction in purchases would have to reduce the prices at which other program services could be purchased.

There are sound reasons for doubting that cable MSOs, even if horizontal concentration increased considerably, would exercise monopsony power that restricted the supply of video programming to consumers and harmed welfare. As a result, we do not believe that the Commission needs to adopt restrictive limits on the size of cable MSOs to prevent the exercise of monopsony power that would "impede...the flow of video programming from the video programmer to the consumer."[9]

1. When Monopsony Power Might Restrict Supply

To analyze whether large MSOs are likely to be able to restrict the supply of video programming by exercising monopsony power, we first review the standard analysis of how and why

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embroiling the Commission in a long and costly exercise of estimating the competitive programming price for the entire spectrum of available and future programming, and therefore the amount of such transfers at stake, such a prohibition could not be enforced.

[9]Section 613(f)(2)(A) of the Communications Act.

monopsony power is harmful, and then adapt the analysis to the cable industry.

In the standard analysis there is a single purchaser of some input that has an upward sloping supply curve. Because the supply curve slopes upward, additional purchases increase the price paid for all units of the input. Thus, the single purchaser recognizes that the cost of buying additional quantities of the input includes not only the price paid for those additional units, but also the increased payment on all other units that results from the associated increase in price. For this reason, the monopsonist restricts the amount of the input purchased, and consequently the quantity of output supplied. If there were many small buyers, each would ignore any effect of its purchases on input prices because its individual purchases would have a negligible effect -- in other words, no buyer would have monopsony power over the input price -- and thus each would purchase more inputs and supply more outputs than if it were a monopsonist.

Despite the potential benefits to a large buyer from restricting its purchases to lower the price it pays, large buyers often do not behave in this manner. There are basically two reasons for this. First, size confers no monopsony power if the supply curve for inputs faced by a large buyer is perfectly elastic, i.e., horizontal, so that purchasing additional quantities of an input does not increase its price. Second, even if higher prices must be paid for additional units of an input, a large buyer has no incentive to inefficiently restrict purchases if the higher

price need be paid only for the additional units, but not for all other, "inframarginal," units purchased.[10] Based on our analysis of the significance of these factors in the cable industry, we conclude that it is unlikely that a large MSO will restrict its purchase, and supply to consumers, of video services by exercising monopsony power.

2. Monopsony Power and Cable MSOs

The basic question that we address here is whether a large MSO would drive up the price it pays for all program services if it were to purchase an additional service. There are three dimensions in which a cable MSO can increase the quantity of program services it purchases: (i) it can carry a given program service on additional systems and deliver it to more subscribers; (ii) it can buy more program services for each of its systems; or (iii) it can buy higher quality programming from a given program service.

It is hard to imagine that if a cable MSO were to carry an established service on more of its systems, the additional carriage would require the expenditure of significant resources.[11] The program service itself consumes few additional resources to deliver its service to more systems; the normal presumption is that the marginal costs of supplying a service to more systems and consumers

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[10]This is analogous to the proposition that a perfectly discriminating monopolist does not inefficiently restrict quantity supplied.

[11]The implicit assumption is that viability of the service is not affected by how many systems carry the service. We discuss next the case where the MSO decision may affect viability.

are lower than the average cost. As a result, the total inputs used in the distribution of this service remain virtually unchanged; and if there is no effect on the use of inputs in this service, there will be no effects on the cost that must be paid to retain inputs used in other services.[12]

Cable MSOs also can decide how many cable program services to carry. Is a decision by an MSO to carry one more cable service likely to affect the prices paid for other cable services? If an individual MSO's decision does not change the number of operating cable program services (holding quality constant), there is no reason to expect an effect on price. The analysis is the same as the previous case. Few additional resources are needed to serve the additional systems of the MSO, and thus the real cost of inputs would not be raised.

What if, instead, the MSO's decision determines how many cable services will remain in business? Now buying an additional service will have an effect on the total quantity of resources devoted to cable program services.[13] There still will be no incentive to inefficiently restrict the quantity purchased, however, unless the operation of an additional cable program service bids up the prices

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[12]Indeed, as distinct from the effect of expanded carriage on the use of program service inputs, this cable MSO is likely to pay lower per-subscriber prices, (i.e., receive volume discounts) for delivering a service to more subscribers. Pricing by cable program services is more likely to give operators an incentive to expand carriage than an incentive to restrict it inefficiently.

[13]To be clear, we are not concluding that a single MSO could affect the viability of a program service but instead simply analyzing the effect of assuming that it could.

that must be paid to inputs used in other cable program services. Only then will purchase of an additional service drive up the supply costs of other program services, and thus the prices the cable MSO must pay.

Available evidence does not indicate that program services' input costs would be bid up in this way during any medium or long-term time horizon.[14] The rapid expansion of the number of cable program services that occurred over the space of a few years, and the fact that many services continue to be available to cable systems at very low per subscriber rates, suggest a relatively elastic supply of many of the inputs that are used by cable program services.[15]

The final possibility to be analyzed is that a large cable MSO might be able to adjust the "quantity" purchased in another dimension if it could induce a program service to employ higher quality programming inputs by offering the service a higher license fee. This would not, however, lead to an exercise of monopsony power that inefficiently restricted the supply of video programming unless the demand by one program service for higher quality program inputs bid up the cost of program inputs used by other program services. Whether this would be the case would depend on the nature of the bargaining between program services and the putative

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[14]Put somewhat differently, over these time periods, the relevant antitrust market is not likely to be limited to those inputs used in producing specific types of program services.

[15]One count, by the NCTA, reports that there were 27 national cable program networks at the end of 1980 and 73 by the end of 1987. NCTA, "Cable Television Developments", October 1992, 7-A.

monopsonist. For reasons discussed in detail below, increases in program quality, although they may require the payment of higher input prices than those that are currently being paid, are unlikely to increase the prices of inputs used by other program services. As a result, even a single large buyer would obtain no benefits from restricting the amount of its purchases.

3. Program Quality and Program Prices

The previous discussion focused on whether large MSO buyers would restrict the quantity of program service purchased, rather than on their ability to affect price paid, because it is restriction of output that would reduce efficiency and would, in the words of the 1992 Cable Act, "impede...the flow of video programming from the video programmer to the consumer." Exercise of monopsony power that restricts quantity purchased involves, or could be implemented by, limiting the price paid for program services. At the same time, cable MSOs may have some ability to limit the price paid for some program services by exercising bargaining power, without having any incentive to restrict their purchases inefficiently.

Some cable program services have higher costs than others, and demand, and receive, higher fees from cable operators. Those higher costs, in turn, may reflect the higher quality of those cable services. Indeed, one can imagine an array of cable program services from those that are least costly to acquire to those that are most costly. So long as paying for a higher cost service does

not increase the price that must be paid for a lower cost service, a cable MSO has no incentive to restrict its purchases to lower cost (lower quality) services in order to exercise market power.

Bargaining over the price of program rights and program inputs is a common phenomenon throughout the video, entertainment, and sports industries. Some programming and some sports events, and in turn some of the talent responsible for such programming and sports events, generate revenue in excess of the value those inputs could generate in their next best use. In other words, such programming and inputs into programming generate revenues in excess of the minimum costs that must be paid to command their use.[16] That means there is room for bargaining between buyer and seller over the difference between the minimum amount the seller must be paid and the maximum amount the buyer would pay.[17]

The potential for bargaining will be much greater for some cable program services than others. There is little room for bargaining over fees for program services that generate an

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[16]We do not mean to suggest that one could reduce any excess of revenues over input opportunity costs to zero and still maintain the same quality of programming over time. Both the expected return to inputs and the distribution of returns will affect the availability of programming inputs. The amount needed to pay current inputs in order to attract the same quality of programming inputs in the future is by definition not a rent. Put somewhat differently, there is no credible way in which a purchaser can extract all the revenues in excess of opportunity cost today and promise not to do it again tomorrow.

[17]A similar analysis could be conducted by assuming that factor inputs have different values in alternative uses. We emphasize the approach taken in the text because differences in the value of inputs to the video industry seem much greater than differences in their values in their best alternative uses.

increment in revenue to cable systems only slightly larger than the costs of the program service, where those costs are the minimum amounts the service could pay and still purchase rights to its programming.[18] Significantly, however, the amount paid by a single large buyer for one program service is unlikely to affect the price it pays for all others. Thus, for example, a perfectly price discriminating monopsonist would pay only the minimum amount necessary for each program service, an amount that would be unaffected by the number or identity of other program services that it takes. Similarly, even a monopsonist that shared its rents with input suppliers would be able to avoid having the bargaining over the rents for one program service affect the prices its pays for all others.[19] As a result, the program service choices made by the perfectly price discriminating monopsonist, or even one that shares rents with suppliers, will be identical to those that would have been made in the absence of monopsony.[20]

Assume all cable systems were owned by a single MSO. Assume also that, as a result this single MSO could obtain services for

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[18]This does not imply that license fees would be the same for all such marginally profitable services. The level of costs and of incremental revenues could, and probably do, vary substantially across such services.

[19]This contrasts with the "standard" monopsony case in that the buyer is more likely to know the true reservation prices of sellers.

[20]While in these cases, it is in the joint interest of the cable system and the program service that the cable system carry the service, one can imagine the program service posturing for a larger share of the rents. In these cases, it is possible that some "mistakes" will be made, and the carriage of some services may be delayed.

the minimum amount the program services would accept and continue to provide the service.[21] This cable MSO would have no incentive to pay less than what was necessary for the program service to continue supplying service; doing so would reduce the profitability of the cable system. Similarly the cable MSO would not have an incentive to refuse to pay higher license fees to cover the costs of increases in programming quality that generated net incremental revenue larger than the increment in cost. Bargaining power would give the cable MSO the ability to capture a greater share of the difference between opportunity cost and incremental revenue, but the purchases of programming would not be restricted.

Whether a large MSO is in a better bargaining position than a smaller one is not a simple matter of a program service having more alternative buyers when MSOs are smaller; regardless of whether the cable systems serving all subscribers in the country were owned by one, five, or 100 MSOs, the program service is trying to sell essentially the same output to all of them. Cable program services do not sell each unit of output uniquely to a single buyer, and thus selling to more, smaller, MSOs does not mean there are more alternative buyers competing to buy each unit of output.

In fact, the potential for bargaining power to reduce the amount of programming supplied might be greater if all cable MSOs were smaller. A small MSO is less likely to consider the effect of

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[21]It is not obvious that even this single MSO would have this much bargaining power, since program services that generated unusually high incremental net revenue also would have something unique to sell.

price paid on the survival of the program service, or on the quality of programming, since the license fee it pays will generally be too small to have a substantial effect on the program service.

Taking the contract with a single small MSO in isolation, the program service is better off selling rather than not selling so long as the revenue received covers the incremental cost of supplying this small MSO. However, if many small MSOs could force the program service to accept less than the average cost of supplying them, the supply of programming could be restricted.

We do not claim that this in fact will be a problem for program services dealing with smaller MSOs; the program service will have ways of buttressing its bargaining position.[22] The argument does show, however, that bargaining power by a large MSO, even if not offset by the bargaining power of popular program services, is not likely to restrict the amount of programming supplied. Large MSOs will be constrained in their bargaining, in a way many small MSOs would not, by the knowledge on the part of both MSO and program service that the total costs of the program service must be covered, and that this transaction will have an important effect on whether they are covered.[23] In short, any

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[22]For example, reputation effects may increase the minimum acceptable payment to which the program service can commit.

[23]In addition, as pointed out above, being able to deal with larger MSOs may reduce the transaction costs of arranging the buying commitments that program services may require in order to begin new services and to make substantial quality improvements in existing services.

bargaining power by MSOs is unlikely to "impede...the flow of video programming from the video programmer to the consumer."[24]

D. Conclusion

By way of a summary, we conclude that because cable systems do not compete directly with one another, it is highly unlikely that the aggregation of subscribers served by commonly-owned systems will result in anticompetitive harm to either subscribers or advertisers. This kind of aggregation may increase the bargaining power of an MSO in its dealings with program suppliers, but will not affect the array of programming selected and distributed by the cable operator and therefore will not distort the allocation of resources in the production of program services. Because of the absence of consumer harm from MSO growth, we would urge the Commission to adopt a very liberal limit on MSO size. To avoid discouraging operators from increasing penetration rates within franchise areas, we would recommend that the Commission express the limit to MSO size in terms of homes passed.

III. Channel Occupancy Limitations

This section addresses economic issues raised by the proposed rules that would limit the number of channels on a cable system that could be occupied by vertically integrated cable program services. We begin by discussing the efficiencies that result from vertical integration with special emphasis on those that are

[24]Section 613(f)(2)(A) of the Communications Act.

present in the cable television industry. Next, we consider the possibility that vertical integration may be used to foreclose rival program services. We conclude that there may be significant barriers to pursuing a successful foreclosure strategy, and that some characteristics of the cable industry may strengthen that conclusion. As a result, we recommend that relatively high channel occupancy limits be adopted and that those limits take into account the fact that vertical integration in cable frequently involves only partial ownership interests.

A. Vertical Integration and Economic Efficiency

As we observed in our paper that was submitted in the Commission's "program access" proceeding, many of the contractual practices observed between cable MSOs and cable program services promote economic efficiency.[25] We referred specifically in that paper to the pricing arrangements for the carriage of program services, and the granting of exclusivity to a video distributor in a given geographic market. We demonstrated that the provision of volume discounts and the grant of exclusivity can provide significant benefits to cable program services and, ultimately, to viewers. Here we conclude that vertical integration between MSOs and cable program services can lower costs, leading to reduced prices and increased service quality to the viewing public. By contrast, limiting vertical integration can increase production costs, leading to reduced quality, and even discouraging the

[25]Besen, Brenner, and Woodbury, op. cit.

introduction of innovations such as digital compression by reducing the returns to innovative activity.

As is well known from the economic literature on vertical integration, ownership links between upstream and downstream firms can lead to efficiencies that are sometimes difficult, or costly, to accomplish through contracts.[26] A familiar instance in which such efficiencies arise occurs with respect to the avoidance of the "double marginalization" associated with contractual linkages between unintegrated firms.[27] Vertical integration permits the upstream and downstream divisions of a firm to set the transfer prices for transactions between themselves at marginal cost because shareholders are concerned only with the total profit of the firm and not with the notional profits of the separate divisions.[28] Because marginal cost represents the true cost to the firm, efficient intra-firm behavior is encouraged. Outside vendors will be preferred only if their prices are less than the marginal cost of the upstream division.

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[26]For an extensive analysis of the differences between these two ways of organizing economic activity see O.E. Williamson, Markets and Hierarchies: Analysis and Antitrust Implications, New York: Free Press, 1975.

[27]In discussing this reason for vertical integration, we do not mean to suggest that other reasons do not exist, or that this is necessarily the most important reason.

[28]This assumes that there is a complete identity of ownership between the divisions.

In theory, a "two part tariff" for transactions between non-integrated firms can be a substitute for vertical integration.[29] However, implementing such a contractual arrangement may be difficult, largely because of the complications of reaching agreement about the "first part" of the tariff. Firms often prefer to vertically integrate because intra-firm transactions are more efficient than those through the market.[30]

Similarly, although contractual arrangements between independent entities can be used to effect cooperation in producing outputs, such arrangements have limitations, in part because they are difficult to structure in ways that make the interests of the cooperating entities entirely congruent. This familiar "principal-agent" problem arises because frequently one of the entities is called upon to take actions in which it bears all, or most, of the cost, but obtains only its agreed-upon share of the resulting increase in revenues. In those circumstances, the entity may be unwilling to undertake actions that increase the revenues of the venture by more than they increase the costs, because the additional revenues it obtains are less than the additional costs

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[29]The two part tariff would have the downstream firm pay an unaffiliated upstream supplier a fixed amount that is independent of the volume of transactions between them and a per unit charge equal to marginal cost.

[30]We not mean to suggest that vertical integration will always be preferred. Indeed, the issue of the nature and significant of the benefits of vertical integration in comparison to the benefits of transactions through the market is a lively area of economic research. Our point is only that vertical integration often results in efficiency benefits that cannot be obtained through arm's length transactions.

that it incurs. Similarly, one of the entities may undertake actions whose costs exceed its total benefits if it can share the costs with its partner.

For example, a cable operator expends resources to promote a given program service. If, then, its subscribers place a high value on having access to the service, the operator may be forced to pay a higher price for the service in subsequent contracts. The fear that prices will rise in the future may limit the willingness of the operator to undertake the promotional effort.

As another example, a cable operator may be able to improve the quality of an independent program service by participating in program acquisition and development. Indeed, the resulting benefits of such activities may well exceed the costs the operator incurs. However, the operator may be unwilling to make such efforts if it cannot charge the costs of doing so to the program service, because the program service, and perhaps other purchasers, will also benefit.

It might be thought, in response to the previous problem, that the program service could simply agree to reimburse the cable operator's costs. But this leads to the second problem described above. Under a contract in which all its costs are reimbursed, the operator will undertake activities to improve programming even if the resulting total benefits are less than its costs, if it receives any benefits.[31]

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[31]This is apart from the problem that the operator might attempt to reclassify some of its costs so that they are subject to reimbursement by the program service.

When contractual or other market-mediated attempts at incentive alignment fall short of the ideal, and when that failure is very costly, the entities may vertically integrate, or one may acquire a partial ownership interest in the other. In the present context, a cable operator that has an ownership interest in a program service may benefit from engaging in development activities through its ownership interest. The ownership interest, together with contractual provisions for sharing costs and revenues, serves to make the outcomes of the operator and the program service more congruent, so that each will undertake actions, and only those actions, that benefit the overall enterprise.

If in these circumstances such ownership combinations are prohibited, the burden for achieving congruence between the interests of the operator and the program service increasingly falls on the contractual provisions.[32] Because negotiating and enforcing such provisions are difficult, efficiency is likely to suffer.

We do not wish to exaggerate this point. The cable industry, like other industries, employs a mix of vertical integration, partial ownership interests, and contractual arrangements to effect transactions. It is impossible for a social planner, or perhaps even the industry participants, to appreciate why a particular governance structure is chosen in any particular case. Given the

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[32]The interests of the parties are also aligned if they anticipate a long-term relationship which each fears will be disrupted if the other discovers it is serving its own interests at the expense of its "partner."

prevalence of vertical integration in our market economy, we would argue only that there should be a presumption that the arrangements chosen are efficient and that the evidentiary threshold for rebutting that presumption should be substantial.

B. Vertical Integration and the Difficulties of Foreclosure

The concern that vertical integration may lead to a reduction of competition and efficiency by restricting the supply of programming appears to be rooted in a simple story of foreclosure, that an MSO may be able disadvantage a program service that is an actual or potential rival of a program service with which the MSO is affiliated. The most overt form of such behavior would be refusal to carry the rival program service. In this story, because its rival is disadvantaged -- in the extreme case because it cannot stay in business -- the program service affiliated with the MSO becomes more profitable. The increased profits of the program service provide the motivation for the foreclosure.

This section analyzes whether and when an MSO with an interest in a program service is likely to have an incentive to follow such a foreclosure strategy. We conclude that trying to foreclose a rival program service will not be profitable in many circumstances. An MSO that owns a program service will not always have the ability to disadvantage rival program services. The MSO may be unable to damage the rival because the MSO is too small, because the rival service is profitable enough to withstand the loss of revenue, or because the rival service can protect itself by lowering input