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

payments. Foreclosure, even if it could harm rival services, may yield little or no payoff because the affiliated program service faces too many other substitutes for it to be able to increase prices even if some rivals are disadvantaged. The costs incurred to disadvantage rival services may be greater than the gains of the affiliated program service. Finally, rival program services may have means of protecting themselves from harm -- what economists call counterstrategies -- that prevent a foreclosure strategy from succeeding.

This section analyzes each of these issues in order to identify conditions that determine the likelihood that vertically integrated MSOs would have an incentive to use a foreclosure strategy to disadvantage rival program services and restrict the supply of video programming. For simplicity, the discussion first analyzes the case in which a program service is fully owned by a single MSO. In fact, there are relatively few cases in which the vertical ownership pattern in cable television is this simple. MSOs share ownership of some program services with interests that do not own cable systems, and more than one MSO may have an ownership share in a program service. Similarly, an entity with an ownership share in a program service may have a different share of an affiliated MSO. The last part of this section analyzes the effects of these complications on the incentive to foreclose rival program services.

All of the analysis in this section is carried out under the assumption that there is only one multichannel video distributor in

each area, a cable system. Making this assumption rules out any possibility that a vertically integrated MSO and program service might use control over a limited supply of program services to disadvantage rival distributors. However, this assumption also eliminates another constraint on the ability of an MSO to harm a rival of a service it owned, since a rival distributor could carry a rival service the MSO tried to foreclose.

1. Efficient "Foreclosure"

Foreclosure that could have anticompetitive consequences must be distinguished from every-day decisions by an MSO not to carry a program service that may harm that program service, but do not harm the process of competition or efficiency. Like virtually all firms, cable MSOs make decisions about what inputs they buy from which suppliers. Such choices usually are driven by nothing more than the profit incentive to choose more efficient suppliers of lower cost, higher quality inputs.[33] Less efficient suppliers are harmed, but this is a desired consequence of competition among suppliers, not an indication of reduced competition.[34]

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[33]We recognize that a cable system's choice of program services -- and the welfare generated by those choices -- is influenced by the structure of the market in which it sells video services and the extent of competition it faces as a supplier of such services. See, for example, A.M. Spence and B.M. Owen, "Television Programming, Monopolistic Competition, and Welfare," Quarterly Journal of Economics, 91, 1975. Departures from first-best optimality for these reasons, however, do not depend on, and are distinct from, the issues of foreclosure discussed here.

[34]Another case in which a service is not carried but where the objective is not to foreclose is where an MSO is unwilling to carry a new service that competes with a service it owns unless the new

A choice by a cable MSO to carry a program service with which it is affiliated in preference to unaffiliated services may be based on nothing more than the desire to have a more efficient supplier. An apparent tendency of a downstream firm to "favor" its upstream partner is an expected manifestation of such efficiencies.

To give one example, we pointed out above how vertical integration can improve efficiency by eliminating "double marginalization". Vertical integration allows the downstream firm to face a lower price for purchases from its upstream partner than from an unrelated supplier. Here, the downstream firm will make more purchases from, and thus will appear to be "favoring," its partner. It would be a mistake, however, to conclude that the firm purchased from its partner because it was vertically integrated. A correct interpretation is that the firm vertically integrated because intra-firm transactions were more efficient than those through the market. In these circumstances, placing limitations on transactions between related firms has the socially undesirable effect of raising prices to consumers.

Thus the choices by an MSO of what services to carry need not be "blind" to a services' affiliation with the MSO, even where the objective is not to reduce competition for owned program services. Attempting to prevent "favoritism" may reduce the efficiencies that vertical integration makes possible.

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service changes the programming it proposes to offer. Such a behavior might reflect only judgments that the proposed service is not worth carrying, but that a redesigned service would be valuable.

2. Can Rival Program Services be Disadvantaged?

In many cases, cable MSOs will be unable to disadvantage rivals of program services that they own. Refusing to carry a rival program service may not make it a less effective rival for a variety of inter-related reasons: the service may be profitable enough to be able to absorb the loss of revenue, it may be able to adjust its costs, and, given these capabilities of the service, the MSO may not be large enough to impose sufficient harm.

The simplest possibility is that the rival program service may be profitable enough to absorb the loss of revenue from foreclosure and continue to supply other cable systems at the same price. Being denied sales to some cable systems probably has little effect on the incremental cost of supplying other systems. So long as the service can continue to earn revenues sufficient to cover its total costs, it may continue to charge other systems the same amounts as before. That, however, would mean the vertically integrated program service had gained no competitive advantage.

If the rival service must recover more revenue from other cable systems to stay in business, it may be able to do so with nonuniform tariffs, rather than by charging a higher, uniform per subscriber fee. If the rival service was not already capturing the full value to cable systems of carrying it, the service might then be able to earn enough additional revenue from those systems that continue to carry it for it to be able to cover its costs. The disadvantaged rival would suffer reduced profits, but the affiliated service would see little or no benefit.

The ability of a rival service to absorb a loss of carriage and revenue without failing, or becoming a less effective competitor, is reinforced if the service can adjust its costs when its revenues fall without any significant decline in quality. The more a service can adjust its costs, the less the risk of business failure that results from the loss of revenue from a foreclosing MSO.

In fact, program services may be able to adjust their costs when their revenues fall. Rights to programming account for a substantial proportion of the total costs of many program services. The amount of programming a service needs generally will not vary with the number of subscribers to the service, assuming quality is maintained, but the amount paid for rights to that programming may vary. Much of what is paid for programming on cable networks likely consists of rents, amounts in excess of what would have to be paid now and in the future to bid programming resources away from their next most valuable use.

Program costs that reflect rents depend on the revenue the program service earns, rather than determining the revenue that must be earned to stay in business. If the service reaches fewer subscribers and has lower revenues, that not only reduces the amount it can pay for programming, it may reduce the amount it has to pay.[35]

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[35]We earlier noted that the additional resources expended when an operator increases the number of its systems carrying the service are likely to be minimal. However, this does not mean that when the carriage of such services increases, the total payment made to the service (or the associated inputs) does not increase as

It may be objected that in practice a program service could not adjust its costs in this way because contracts specify fixed license fees or other payments. Contracts may, however, be renegotiated. A seller of program rights receiving fees higher than the next best offer has a strong incentive to renegotiate those fees if the alternative is that the program service buying the rights goes out of business. If the rival service threatened with foreclosure is a new entrant, license fees can be negotiated anticipating the effects of threatened foreclosure on the number of subscribers and the revenue the service can expect. Contracts can also make payments partially contingent on the financial success of the program service, either explicitly or because both parties expect renegotiation.

The ability of a program service to absorb lost profits, or to adjust costs, determines how large an MSO would have to be to reduce the service's effectiveness as a competitor. Most services face little threat from small MSOs. Denying a service the license fees it would receive from reaching a small number of subscribers will neither prevent a service from being viable, nor have a substantial effect on its cost per subscriber -- even if it cannot adjust total costs. Services that are more profitable, or have a greater ability to adjust cost, would remain effective competitors even if denied carriage by much larger MSOs.

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well, reflecting the relative quality and therefore the bargaining power of the inputs. To the extent that those additional payments are rents, they are not necessary to retain the service when the operator increases its carriage.

Unfortunately, it is difficult to infer from information on the number of subscribers reached by cable program services, or on current revenues and costs, how many subscribers program services could lose without being competitively disadvantaged. The difficulty is increased because vulnerability to foreclosure will vary with the service.

Many basic program services do reach 95 percent or more of all cable subscribers. Such high penetrations, however, do not imply the services would not be viable, or would have substantially higher average costs, at lower penetration. One would expect attractive services to be carried on a high proportion of cable systems unless there were cost disadvantages. High penetration is evidence of the obvious -- absence of scale diseconomies -- but not evidence on the extent to which there would be cost disadvantages to serving 5, 10, or 25 percent fewer subscribers.

The minimum number of subscribers necessary for a cable service to be viable also cannot be determined from simple break-even calculations of the number of subscribers necessary to cover current total costs at current revenues per subscriber. We would expect successful program services to find that the amount they pay for program rights, or for some of the talent used to produce new programming, would be bid up as the network prospered. That phenomenon certainly is observed in the production of broadcast network programming, where success of a program typically is followed by a bidding up, first, of the fees paid for rights,

followed by a bidding up of the amounts paid to actors and other talent.[36]

3. The Affiliated Program Service Will Not Always Benefit

The ability of an MSO to disadvantage rival program services is necessary for the foreclosure strategy discussed here to succeed, but it is not sufficient. Eliminating one or a few rival program services may have little or no effect on the amount other cable systems would be willing to pay the program service owned by the foreclosing MSO.

The program service owned by an MSO may be only one of many program services that are relatively close, but not perfect substitutes. These services need not carry the same type of programming, appeal to the same audiences, or even charge similar license fees. They are still substitutes to the cable system so long as carrying any of them yields about the same incremental net revenue. In such cases, adding any one of these to a tier of services that contains the affiliated service earns a cable system approximately the same small increment in net revenues. The most a cable service will pay one of these services is this increment. Eliminating one or a few of these rival services would have little effect on the amount the cable service would pay for the service owned by the other MSO; the remaining substitutes still would

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[36]See J.R. Woodbury, S.M. Besen, and G.M. Fournier, "The Determinants of Network Television Program Prices: Implicit Contracts, Regulation and Bargaining Power," Bell Journal of Economics, 14, 1983.

constrain the revenue of the MSO's service. Only by eliminating a large number of these rival services could this strategy raise the profits of its program service, but this would also increase the cost of the strategy, and reduces the likelihood that it will be profitable to pursue.

4. The Benefits of Foreclosure May Be Less than the Costs

A cable MSO may have no incentive to foreclose a program service that competes with a service it owns, even when it has the ability to disadvantage the rival service and increase the profits of its own program service. Foreclosing the rival service also imposes costs on the MSO. A foreclosure strategy will be profitable only if these costs are smaller than the benefits realized by the affiliated program service.

A refusal to carry a rival service can be considered anticompetitive foreclosure only if, but for the effects on its owned program service, the MSO would have carried the rival service. Otherwise refusal to carry is simply a choice among alternative inputs. The cable system would want to carry the rival service, but for a foreclosure strategy, only if doing so was expected to yield the MSO increased net revenue after taking into account the effect of carriage on the net revenues earned by carrying all other services, including its own service. Therefore,

not carrying the rival service imposes costs on an MSO where its own cable systems provide service.[37]

To determine if foreclosure of a rival service would be profitable, a vertically integrated MSO and program service would weigh its losses as a cable operator against any gains of its affiliated program service in other markets. If the losses exceed the gains, the foreclosure strategy will be unprofitable.

It is difficult to state general conditions that identify all circumstances in which foreclosure would not be profitable. The magnitude of the costs and benefits of a foreclosure strategy depend on too many unobservable variables, such as the value to cable systems of carrying various services and on bargaining dynamics between cable systems and program services.

The analysis does, however, point out that a cable MSO may be too large, as well as too small, for a strategy of disadvantaging rival program services to be attractive. Increasing the share of all subscribers served by the foreclosing MSO also increases the losses it must bear.

Indeed, the better the license terms for which large MSOs are able to bargain, the higher the costs to them of foreclosure. Bargaining for better license terms would mean the large MSO would keep a larger share of the amount by which the incremental net

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[37]The rival service and the MSO's own services must be at least partial substitutes, so carrying one affects the revenue generated by carrying the other. The cable system, however, takes this interdependence into account in pricing and marketing the two services, and in calculating whether carrying another service adds to net revenue.

revenues generated by the program service exceed the costs of supplying that service. It is the amounts retained by the cable systems that are lost by foreclosure.

Increasing the proportion of subscribers served by the integrated MSO also reduces the benefits realized through the program service it owns. The program service earns increased revenue because elimination of the rival allows it to capture more of the revenues that cable systems earn by carrying it. But this is a gain only when those cable systems are not owned by the same MSO.[38] Increasing the number of subscribers served by the integrated MSO may reduce the likelihood that the gains from foreclosure will outweigh the costs.

5. Counterstrategies to Prevent Foreclosure

As the preceding discussion demonstrates, effecting a profitable foreclosure strategy is by no means easy, but there is an additional hurdle that must be surmounted. Cable systems that would be disadvantaged if a rival program service were foreclosed have an incentive to attempt to keep the rival in business by adopting counterstrategies to the attempt to foreclose.[39] This may make the foreclosure strategy unprofitable, so it may not be pursued in the first place.

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[38]With elimination of the rival service, the license fees paid by an MSO to a program service it owns might increase, but this is no more than an intrafirm transfer that adds nothing to the profitability of foreclosure.

[39]See F.H. Easterbrook, "Predatory Strategies and Counterstrategies, University of Chicago Law Review, 48, 1981.

A foreclosure strategy that appears profitable rests on the ability of the MSO to disadvantage a rival program service, perhaps to the point that it goes out of business. If it goes out of business, the profits earned by cable systems in other markets may be reduced.[40] This loss in profits, however, may be greater than the additional amount necessary for the rival program service to stay in business. In such cases, there is the potential for payments to be made from the disadvantaged cable operators to the disadvantaged program service that prevent it from going out of business.[41]

We do not want to minimize the coordination problems of effecting this counterstrategy, although we should point out that a successful counterstrategy may not require the cooperation of all disadvantaged MSOs. Moreover, there may be instances in which many cable services realize that the success of the program service depends on each making an appropriate contribution. Still another possibility is that a number of cable MSOs may vertically integrate with an otherwise disadvantaged program service. Finally, it may be possible for the program service to solicit increased payments from cable operators that are contingent on receiving similar payments from other operators.[42]

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[40]As noted in the previous section, this will depend on the substitutability among program services.

[41]Note that the necessary payments may be smaller than the loss in revenues experienced in the market of the vertically integrated MSO.

[42]There would appear to be no legal impediments to solicitations of this form.

Faced with the likelihood of an effective counterstrategy, an MSO may decline to pursue the foreclosure strategy. In these instances, there are no benefits from pursuing the strategy if competition to supply cable systems is not reduced, and costs must be incurred in the MSO's own markets when it does not carry the rival program service.[43]

6. The Effects of Partial Ownership Interests

A simplifying assumption in the previous analysis was that there was an identity of ownership interests between the MSO and its affiliated program service. Thus, either a single entity was assumed to own both or, if there were partial ownership interests, they were distributed in the same manner in the MSO and the program service. Although such arrangements exist in the cable industry, they appear to be relatively rare. Many program services have multiple owners, including both MSOs and others that do not own cable systems.[44] Some MSOs have multiple owners, not all of which own cable program services. The result is to add to the complexity of pursuing a successful foreclosure strategy.

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[43]The effect on competition will depend on the form of the additional payments that are made by cable operators to the rival service. If these payments affect only infra-marginal subscribers, there is no effect.

[44]The ownership arrangements can involve program services that are owned by more than one MSO, but where there are no other owners, others in which there is an single MSO and other owners with no cable system interests, and still others that combine both forms.

Consider an MSO that has several owners, only some of which have an ownership interest in a program service. Even assuming that the previous difficulties in engaging in profitable foreclosure could be surmounted, the strategy might still not be pursued. This is because the non-integrated owners of cable service must bear some of the costs in the markets served by the MSO, but only their vertically integrated partners will obtain the benefits.

Similarly, suppose that there is a single owner of an MSO, which has a partial ownership interest in a cable program service. Even assuming that foreclosure would increase the combined profits of the MSO and the cable service, the owner of the MSO would bear the entire costs of the strategy, but would obtain only a portion of the benefits.[45]

Shared ownership of a program service by more than one MSO also creates problems when the ownership shares do not match their subscribership shares. For example, assume that two MSOs each have 50 percent ownership shares in a service, but one MSO serves 8 million subscribers and the other only 1 million. The larger MSO will bear costs of foreclosure roughly eight times those of the smaller MSO, but its ownership share gives it a claim on only half of any benefits enjoyed by the program service.

In summary, in an environment like the cable industry, in which vertical integration is more complex than simply the common

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[45] A fortiori, there would be no benefits from foreclosing a rival to a program service that is vertically integrated with another MSO.

ownership of upstream and downstream firms, effecting a foreclosure strategy faces complications in addition to those discussed above, because the benefits and costs of such a strategy are not distributed in the same manner. As a result, other things equal, it is less likely that such a strategy will be pursued. The Commission should take this into account both in assessing the likelihood that a foreclosure strategy could be successfully pursued and in fashioning its channel occupancy limits. In particular, the limits should allow for the possibility that the distributions of ownership of an MSO and those program services in which it has an ownership interest will be different, and the rules should be structured accordingly.

C. Conclusion: Foreclosure vs. Efficiency

There are a number of well-known efficiency benefits from vertical integration, and many of them exist in the cable television industry. At the same time, there is the theoretical possibility that there may be risks that vertical integration will be used as a device to foreclose rivals. However, the theory also recognizes that foreclosure will not always be a profitable strategy, because it may be difficult to foreclose rivals, because the gains from doing so may be limited, and because there may be effective counterstrategies. Moreover, there are additional factors that may make foreclosure even less likely in the cable industry. These include the ability of disadvantaged program services to adjust costs in response to reduced revenues and the

existence of many arrangements involving partial ownership interests, where not all parties may benefit even if foreclosure were profitable. Furthermore, there is no clear empirical evidence that foreclosure has occurred, despite a few highly-publicized allegations.[46] Because the potential for a successful foreclosure strategy appears quite remote, the Commission should not adopt excessively stringent channel occupancy limits because to do so might sacrifice substantial efficiency benefits from vertical integration.

IV. Participation in Program Production

Section VII of the Notice asks whether a restriction should be placed on the ability of multichannel video programming distributors to "engage in the creation or production of video programming."[47] The Commission tentatively answers this question in the negative, concluding that "the objectives of such a restriction may be fully addressed by the other provisions of [various sections] of the 1992 Cable Act."[48] We concur in this conclusion.

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[46]In one recent review of the research on vertical foreclosure in the cable industry, Salinger noted that "the policy dilemma that vertical integration in cable presents is that while it might be desirable to limit some vertical links, establishing practical policies to sever harmful vertical links while leaving those that are beneficial intact is quite difficult." M.A. Salinger, "Public Policy toward Vertical Integration in Cable," paper presented at Policy Approaches to the Deregulation of Network Industries, the American Enterprise Institute (October 10-11, 1990), p.23.

[47]Notice, para. 56.

[48]Id., para. 60.

For reasons discussed above, the potential for anticompetitive behavior by a multichannel video programming distributor, either through its ownership of cable systems that serve a large number of subscribers, or through vertical integration with the program services it carries, is limited. As a result, we have recommended that any limits on the number of subscribers that can be served by an MSO, or on the proportion of a cable operator's capacity that can be occupied by vertically integrated program services, should be set quite high.[49] Based on the analysis we present below, we conclude that there is no need to further restrict the participation by multichannel distributors in the production of programming. If anything, the basis for such restrictions is even less substantial than that for limiting cable system ownership, or vertical integration between cable systems and program services.

At the outset, it is unclear what anticompetitive problem could be raised through in-house production by a multi-channel distributor that is distinct from the horizontal and vertical ownership issues already discussed. For example, it is unlikely that a multichannel distributor will favor those independent services for which it has produced programs. Our understanding is that few of the non-news programs carried by the various cable programming services are produced by any unaffiliated multichannel distributor; therefore, only a small proportion of the revenues generated by such programming services will generally be

[49]Low limits will prevent certain efficiencies from being attained without providing commensurate protection against anticompetitive behavior.