

**SLICING AND DICING:
A Realistic Examination of Regulating Cable
Programming Tier Structures**

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15 July 2004

* This report was commissioned by Comcast Corporation. The views expressed are those of the author and do not necessarily reflect the views of Comcast Corporation.

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EXECUTIVE SUMMARY

This paper provides an economic analysis of policies that some parties have proposed to restrict the way cable television and DBS systems package their programming. Specifically, the paper examines whether forcing cable and DBS companies to break up existing programming tiers, either into single channels (“*a la carte* offerings”) or small tiers comprising specific types of programming (“themed mini-tiers”), would benefit consumers. The analysis shows that these policies would very likely harm consumers, competition, and economic efficiency.

Cable and DBS operators are far from being alone in offering products to consumers in bundles. The practice of offering multiple products together in a single bundle is widespread:

- *Bundling is a common practice.* For example, automobiles, newspapers, pairs of shoes, long-term apartment leases, and buy-one-get-one-free offers are all examples of bundles.
- *Bundling is often associated with discounts.* In many cases, it is much more expensive to purchase the components separately. Examples include buffet dinners and baseball season tickets.
- *Bundled offerings can be an important competitive tool.* Suppliers often use bundles to compete. For example, when they entered the MVPD market, both DIRECTV and EchoStar relied on large bundles of programming to compete with incumbent cable system operators.

In order to understand the effects of cable and DBS tiers, it is essential to understand three critical facts about cable television programming:

- *The costs of creating programming are independent of the number of viewers.* It costs the same amount to create a cable television program whether that program is watched by a thousand viewers or a million. Society incurs no additional programming costs when a cable television subscriber views a particular cable network.
- *Distribution costs are lower for tiers than for a la carte or mini-tier offerings.* Tiers give rise to cost savings because they allow the use of less expensive subscriber premises equipment (*e.g.*, set-top boxes) and reduce cable system operators’ customer care costs, such as processing bills and orders, and handling customer questions.
- *Cable television networks are themselves bundles.* A given cable television network is a bundle of different programs. The programs of a single network may fall into a variety of categories, including news, sports, and family friendly. Moreover, an individual viewer typically values these different programs by widely varying amounts.

These three characteristics of cable television have several important implications for the analysis of mandatory unbundling. The first implication is that the argument typically made by proponents of mandatory unbundling is based on a fundamental misunderstanding of the relevant facts and economic logic:

- *There is no logical or factual basis for claiming that tiers force people to pay for programming they don't want.* The argument that people are forced to pay for something they do not want implicitly assumes that including more channels in a tier raises the cost to society of providing that service. In doing so, this argument ignores the fundamental economic fact that it is costly to exclude a cable subscriber from receiving selected networks. In fact, once one takes into account the effects on the supply of programming available to cable and DBS operators, economic analysis shows that the use of tiers can lead to situations in which *every* consumer *pays less* and *receives more* programming than he or she would under *a la carte* pricing.

The three fundamental characteristics of cable television have important implications for the analysis of the effects of mandatory unbundling. There are three mechanisms through which mandatory unbundling would harm consumers. First, eliminating or restricting the use of tiers would harm consumers directly by reducing their abilities to derive the most viewing enjoyment out of existing programming:

- *Mandatory unbundling would prevent consumers from efficiently diversifying their viewing.* A tier with a large number of networks allows a consumer efficiently to select desired programs even if he or she does not wish to view all of the programs offered on any given network. This selective viewing can take place on a planned basis or it can be on the spur of the moment, such as when a viewer tunes in to CNN during a breaking news story. With mini-tiers or *a la carte* pricing, a consumer faces incremental (and, for reasons to be shown, likely substantial) charges when he or she wishes to watch programming on an additional network. Consequently, that consumer would be discouraged from watching programming on a wide range of networks (*e.g.*, The Weather Channel during violent weather, USA Network during the Westminster Kennel Club show, or Outdoor Life Network during the Tour de France). Thus, mandatory *a la carte* pricing would effectively take away viewing benefits that consumers currently receive and have grown used to.

- *Mandatory unbundling would prevent consumers from efficiently sampling alternative cable networks.* As explained in the previous bullet, mandatory unbundling would limit the extent to which consumers watch their favorite programming on a wide variety of different networks. That bullet concerned situations in which consumers were aware of the programming available. There is an additional adverse effect of unbundling: consumers are denied a low-cost means of learning about programming that they have not yet seen. For instance, short of viewing one or more episodes of American Chopper on The Discovery Channel, who would have guessed that a show about building motorcycles would be a compelling drama about father-son relationships? Sampling benefits consumers by allowing them to find the mix of programming that best suits their tastes.

A second mechanism through which mandatory unbundling would harm consumers is by triggering higher prices for existing programming:

- *Programming costs would be amortized over fewer subscribers per network.* Unbundling would reduce the number of subscribers to most or all networks. A cable network's costs are largely independent of the number of subscribers. Unbundling would thus raise the subscription fee needed to cover costs because these costs would have to be amortized over a smaller number of subscribers. Consumers would end up paying more per network.
- *Mandatory unbundling would raise the total costs of creating and distributing cable programming.* The costs of distributing cable television programming would rise because of increased equipment and customer care costs. Further, mandatory unbundling would not give rise to any savings in the costs of producing programming. Hence, total costs would rise. Ultimately, these higher costs would be reflected in retail prices and would adversely affect consumer welfare.
- *Mandatory unbundling would reduce overall cable viewership, which ultimately would raise the prices to consumers.* Through the mechanisms described above (*i.e.*, the inability to achieve efficient viewing), restrictions on tiers would reduce overall cable television viewing and would thus reduce opportunities for operators and programmers to generate advertising revenues. The diminished advertising revenues would create incentives for cable networks and systems to charge higher prices. Moreover, programming costs would be amortized over less total viewing.

A third mechanism through which mandatory unbundling would harm consumers is by reducing the quality and variety of programming:

- *The supply of niche networks that attract many of their current viewers on an occasional basis would be severely reduced.* Because consumers would not be able to mix and match efficiently absent tiers, networks that many viewers watch only on an occasional basis would have difficulty attracting sufficiently many viewers to cover programming costs. Consumers would thus suffer from reduced programming variety.

- *The ability of new networks to enter the market would be severely reduced.* Eliminating or restricting the use of tiers would prevent consumers from efficiently sampling alternative cable networks, which would eliminate an important vehicle for new networks to attract viewers and launch successfully. Consequently, the long-run effect of restricting tiers would be to restrict viewer choice.
- *Mandatory unbundling would reduce overall cable viewership and thus reduce the range and quality of programming available.* Through the mechanisms described above, restrictions on tiers would reduce overall cable television viewing. This means that programming costs would be amortized over fewer viewers. Moreover, such restrictions would thus reduce opportunities for operators and programmers to generate advertising revenues, which would harm consumers by reducing the financial incentives to create and distribute programming that consumers desire. Reduced programming quality and variety would be the consequences.

In addition to increasing distribution costs and reducing consumer benefits (in terms of both the quality and variety of programming available and viewed), policies mandating *a la carte* or mini-tiers would inevitably engender serious administrative problems:

- *Regulation mandating themed mini-tiers would be unworkable.* Simply put, there is no sensible way to define themed mini-tiers. A single cable television network may fall into a variety of categories. For example, should the retransmitted Fox broadcast station's programming be placed in a sports mini-tier because it includes the National Football League, Major League Baseball, and NASCAR races? Or is it better thought of as a general interest network that would escape mandatory segregation on a themed mini-tier? Moreover, given any definition, programmers can be expected to find ways to get around those definitions in order to avoid being placed in undesirable tiers.
- *Regulation mandating unbundling could give rise to extensive price regulation that very likely would cause adverse unintended consequences.* Suppose cable operators were required to offer networks on an *a la carte* basis in addition to their current tiers. Industry critics would likely assert that price regulation was needed to prevent a cable system operator from offering such large discounts for purchasing multiple channels that single-channel purchases were not realistic alternatives. Experience has shown that any attempt to regulate price levels and structures is likely to be very complex and give rise to unintended consequences.

Policymakers should recognize that program tiers have produced significant consumer benefits and that mandatory *a la carte* or themed mini-tiers would destroy many of those benefits, leaving consumers with higher prices, less varied and lower quality programming, and less ability to enjoy available programming. In summary, mandatory unbundling of multi-channel video programming can be expected to be bad for consumers, bad for many programmers, and bad for cable television system operators.

I. INTRODUCTION

1. A few members of Congress and certain interest groups have called for the government to impose mandatory structures on the way cable television system operators, direct broadcast satellite (“DBS”) companies, and other multi-channel video programming distributors (“MVPDs”) package and price their programming.¹ Specifically, there have been calls to force cable system operators to break up existing programming tiers into one of two forms.² Under mandatory “*a la carte*” pricing, all programming networks would have to be offered for sale on an individual basis. Under mandatory “themed mini-tiers,” programming networks would be sold in smaller bundles comprising programming defined (presumably by the government) to fit into different “themes” (*e.g.*, sports networks). Both types of policy can be described as mandatory unbundling.

2. The principal claim made in favor of these proposals is that consumers would pay less for cable television programming because they would pay only for those networks they affirmatively choose to pay for, rather than being “forced” to pay for access to programming networks they do not wish to view. Although intuitively appealing, this claim is simply incorrect. First, it fails to take into account several critical features of the cable television industry—specifically, the

¹ These proposals are sometimes framed in terms of giving MVPD companies the “ability” to offer *a la carte* programming or themed mini-tiers on a “voluntary” basis. However, if it made commercial sense, MVPD suppliers would already be making such offerings and would have incentives to negotiate contracts with programming suppliers that allowed them to do so.

² While much of the discussion in this paper is framed in terms of cable television systems, the implications apply equally to DBS and all other video program distributors as well. The Congressional inquiry directed at the Federal Communications Commission concerning these issues suggests that these mandates would apply to cable, DBS and other MVPDs. (Letter of May 18, 2004, from Joe Barton, Chairman, and John D. Dingell, Ranking Member, to The Honorable Michael K. Powell.) Were the government to apply such mandates only to cable system operators, competition among MVPDs would be severely distorted with resulting adverse consequences for consumers and economic efficiency.

nature of programming and distribution costs and the fact that even a single network is a bundle of programs—that figure importantly in cable pricing decisions. Second, this claim is based on a misunderstanding of both the economics of efficient pricing and the incentives and needs of programmers, advertisers, and cable system operators to cover their costs. A proper economic analysis indicates that mandatory unbundling policies would very likely harm consumers and reduce economic efficiency, where the latter is measured by the extent to which the consumption benefits enjoyed by viewers exceed the costs of providing multi-channel video programming service to them. For reasons explained below, under mandatory unbundling, consumers would view a narrower range of lower quality programming and would pay more for that programming on a per-channel basis. Indeed, consumers could quite possibly end up paying higher total bills despite the reduced quality and variety of programming viewed. Mandatory unbundling would deny consumers viewing benefits they currently enjoy and to which they have become accustomed.

3. At the outset, it should be recognized that bundling is a common practice. For example, automobiles, pairs of shoes, long-term apartment leases, newspapers, and buy-one-get-one-free offers are all examples of bundles. Even a box of cereal is a bundle of several different servings. In many cases, it is much more expensive to purchase the components separately. Hence, one often thinks of a bundle as a way to obtain a bargain (*e.g.*, a buffet dinner or season tickets for baseball or theater). Moreover, suppliers often use bundles as a means of competing. For example, Japanese automobile manufacturers successfully competed with their American counterparts by offering cars that came with large bundles of standard equipment and few

options. American manufacturers' competitive response was to create attractive bundles of their own.³

4. One of the main reasons that bundling is common is that it can dramatically reduce the costs of producing and distributing goods. With an all-you-can-eat buffet, for example, a restaurant saves the time and expense of printing menus, taking diners' orders, and preparing individual dishes. Interestingly, political representatives provide another example of efficient bundling: it would make little economic or political sense to have a separate representative for each issue—it would simply be too costly. As discussed below, these same considerations apply to the use of bundling as a competitive tool among competing cable system operators, DBS operators, and broadband service providers (“BSPs”).

5. The remainder of this paper explains why calls for mandatory unbundling are misguided and why such policies would be unworkable and/or have adverse consequences for consumers and economic efficiency. Superficially appealing arguments with no basis in economic logic or the facts of the cable industry should not be allowed to determine public policy toward bundling. In contrast, the present paper presents an economic analysis of bundling that builds on central features of the cable industry, notably its cost structure and the fact that cable networks offer bundles of programming.

II. THE CURRENT SITUATION

6. Today, most cable operators offer many different tiers of service, as well as programming available on a per-channel or per-view basis. Most cable systems today offer two to three analog tiers, including a *basic tier* (which includes broadcast channels; public, educational, and

³ Evans and Salinger (2004) discuss in some detail the specific example of mid-sized sedans.

governmental channels; and leased access channels) and an *expanded basic tier* (which typically includes 20 to 40 popular cable television networks such as CNN, The Discovery Channel, and The History Channel). In addition, a typical system offers one to four digital tiers, and sometimes several more. Consumers have the freedom to choose among these tiers without restriction other than the requirement that they purchase the basic tier. Such tiering typifies the behavior of cable system operators, DBS operators, and other MVPDs.

7. The Comcast system in Southwest Philadelphia provides an illustrative example. This system has a wide array of tiers, channels of premium services, and pay-per-view, including: Basic; Expanded Service; Value Pak; Preferred Service; Premium Networks; Digital Classic; Digital Plus; Digital Silver; Digital Gold; Digital Platinum; Hispanic Tier—CableLatino; Hispanic Tier—Selecto 1; Hispanic Tier—Selecto 2; and HDTV Channels. Many other cable system operators structure their programming offerings in similar ways.

8. Competing MVPD providers also offer various packages of services. BSPs, such as Knology, RCN, also engage in bundling. In suburban Philadelphia, RCN for example, offers: Full Basic; Premium Networks; Digital Vision; Power CP or CI; Power CPI; Power CPI+; and HDTV Channels.⁴ The leading direct broadcast satellite television service providers, DIRECTV and EchoStar, also offer various tiers of services. EchoStar's DISH Network offers "basic packages" with 60, 120, and 180 channels.⁵ They also offer local programming, foreign language programming, and premium channels, the latter bundled with other networks in "value

⁴ RCN's channel line-up is available at <http://rcn.com/cabletv/lineupDetails.php?lineupID=29> and its bundles are described at http://rcn.com/specialoffers/bundles_current_philadelphia.php?market=phdl.pa&customer_type=current.

⁵ See <http://www.dishnetwork.com/content/programming/packages/index.shtml>.

packs.”⁶ Similarly, DIRECTV offers a wide range of bundles, including packages with over 130 channels, over 150 channels, and over 210 channels.⁷

9. The net result is that most consumers have a wide variety of options and multiple providers from which to choose.

10. In addition to demonstrating that consumers already have a variety of viewing options, a review of industry practices provides two insights into the role of bundling by MVPD service providers. First, competitors to cable systems offered bundled services right from the time they started offering service. In 1994, when DIRECTV launched its service, it offered subscribers two packages of service, the Personal Choice package, which included 23 cable programming services, and the Total Choice package, which included the 23 Personal Choice services plus the Encore Multiplex of seven vintage-film channels, the Disney Channel, 30 audio Music Choice channels, and two \$3.95 pay-per-view credits per month.⁸ EchoStar similarly relied on bundling. When it launched its service in 1996, EchoStar offered subscribers four options: (1) America's Top 40, which included the 40 most popular cable programming networks; (2) America's Top 40 Premium Plus, which included the America's Top 40 networks plus 30 DISH CD music channels and a choice of either HBO (five channels), Showtime (three channels), or Cinemax (three channels) multiplexed premium service; (3) America's Top 40 Deluxe Plus, which included the America's Top 40 networks, two multiplexed premium services, and DISH CD; and (4) DISH

⁶ See <http://www.dishnetwork.com/content/programming/movies/index.shtml> (movies); <http://www.dishnetwork.com/content/programming/international/index.shtml> (international); http://www.dishnetwork.com/content/programming/sports_overview/index.shtml (sports); and <http://www.dishnetwork.com/content/programming/packages/index2.shtml> (value packs).

⁷ See <http://www.directv.com/DTVAPP/packages/Landing.dsp> (general) and <http://www.directv.com/DTVAPP/packages/base.dsp> (base packages).

⁸ David Tobenkin, “DirecTV Dishes Out Crisp Images,” *Hollywood Reporter*, Feb. 11, 1994.

Pix, which allowed a subscriber to create a bundle out of any ten of the America's Top 40 networks.⁹ At the time they launched their services, neither DBS operator had significant market power. In a competitive setting, suppliers have to seek the least-cost way of getting benefits to consumers in order to be successful. This behavior thus suggests that the use of tiers by MVPDs is not motivated by the exercise of market power but is, instead, an effective and low-cost way to deliver the benefits of multi-channel video programming to consumers.

11. Second, cable companies generally do not engage in what is known in the academic literature as “mixed bundling.” Under mixed bundling, the same channels would be offered both on an *a la carte* basis and as part of a tier.¹⁰ The academic literature (summarized in the Appendix) has shown that this practice is more profitable than so-called pure bundling when transaction costs are low. The fact that cable system operators do not pursue such strategies suggests that the costs of offering cable networks on an unbundled basis are significant.¹¹ Stated in terms of policy implications, current practices indicate that mandatory unbundling would generate significant costs for service providers and their customers.

III. THREE CRITICAL FEATURES OF CABLE COSTS AND DEMAND DRIVE THE ANALYSIS OF BUNDLING

12. The academic literature on the general theory of unbundling demonstrates that bundling can have complex effects. A central finding is that a ban on bundling can harm economic efficiency, where efficiency is measured as the amount by which consumption benefits

⁹ EchoStar Communications Corp., “EchoStar Unveils DISH Network,” *Business Wire*, March 3, 1996.

¹⁰ It is critical for mixed bundling that the *same* channels be available both ways. Hence, a cable system is not engaged in mixed bundling when it offers HBO on an *a la carte* basis at the same time that it offers tiers that do not include HBO.

¹¹ As discussed in Section III.B below, unbundling would trigger additional equipment costs, additional marketing costs, and additional billing costs, among others.

(measured in dollars) exceed the costs of providing the service generating those benefits.¹² The general results of the academic literature on bundling alone should be enough to give pause to proponents of mandatory unbundling. Moreover, there are three critical features of the cable industry that distinguish it from the industries to which standard analyses of bundling apply. Each of these three factors drives the conclusion that mandatory unbundling would harm consumers and efficiency in the MVPD market. Thus, each factor dramatically strengthens the conclusion that mandatory unbundling is a misguided policy.

13. Each of the three factors is discussed, in turn, below. The implications of these factors for policy evaluation are discussed in the following sections of the paper.

A. Programming Creation Costs Do Not Vary with the Number of Viewers

14. A first critical feature of the industry is that costs of creating programming do not depend on the number of viewers who ultimately watch the programming. Once programming has been created, allowing an additional cable subscriber to watch that programming does not trigger any additional costs of producing the programming. Stated in economics terminology, the marginal programming costs of an additional viewer are zero. This relationship can hold even when the costs of initially creating the programming are huge.

¹² Consider, for example a music compact disc. Suppose that it costs \$1 million to create the content and \$1 per disc to manufacture discs and distribute them to consumers. Once the content creation costs have been sunk, it is efficient to distribute a disc to any consumer who values listening to the disc by more than \$1: doing so maximizes the surplus of benefits over costs. For example, if a consumer derives \$10 of listening enjoyment from the music on the disc, then distributing a disc to that consumer will increase net benefits by $\$9 = \$10 - \$1$.

15. This cost characteristic of video programming stands in sharp contrast with that of most other commodities.¹³ Unlike video programming, additional costs are triggered when another unit of a typical commodity is provided to a consumer. If a consumer were to purchase a unit of such a commodity and then throw it away, real resources would be wasted. With video programming, however, there is no comparable waste. Suppose, for example, that a clothing manufacturer decided to sell its clothing only in bundles, each of which consisted of a pair of trousers and a shirt. Some consumers might wish to wear the trousers but dislike the style of the shirt. Suppose that these consumers chose to throw the shirts away. Forcing these consumers to buy shirts in order to obtain trousers would waste real resources—society would bear the costs of the materials and labor that went into making the shirts even though they generated no value to the consumers.¹⁴ Conversely, resources would have been saved if consumers could have purchased the trousers alone. The situation with a tier of programming is fundamentally different. A given household's decision to purchase the right to view programming, as well as its decision to watch programming, has absolutely no effect on the resources needed to create the programming.

B. The Marginal Costs of Distributing a Cable Network to an Additional Viewer are Often Negative

16. Somewhat surprisingly, a cable or DBS operators' costs of distributing a cable television network do not increase with the number of viewers on the system once the initial decision has been made to carry the network on the system. System capacity will be tied up whether or not a specific household is given access to the network in question. Stated in economics terminology,

¹³ Cable television programming shares this cost characteristic with other *information goods*. An information good is a good or service that consists largely of intellectual property, such as computer software, web-based content on the Internet, and audio entertainment.

¹⁴ Of course, sometimes selling clothing in a bundle is efficient, such as selling a man's suit.

there is no opportunity cost of allowing an existing system subscriber to have access to a network that already is on that system.¹⁵ In fact, it is cheaper to allow viewing than to block it. This conclusion follows from the fact that ordering, billing and customer care costs are tied to the complexity of offerings. There are several sources of costs, including.

- *Set-top box requirements.* Purchasing programming on an *a la carte* basis would require consumers to have addressable set-top boxes, which would entail considerable additional expenses. Depending on the number and sophistication of the boxes, the costs could be billions of dollars annually.¹⁶
- *Marketing costs.* Cable operators would face a very complex and expensive marketing task to inform their customers of available options and correctly process orders. Order processing would almost certainly be slower, more error prone, and more costly than under the current tier structure, both because *a la carte* is inherently complex and because consumers and cable operator employees alike would be unfamiliar with the offerings and systems.
- *Customer care costs, including billing and billing inquiries.* *A la carte* pricing would lead to considerably more complex billing, which would: necessitate increased customer service representative hiring and training; lead to more, longer, and more expensive customer service calls; and in some cases trigger the need to spend millions of dollars

¹⁵ Because of the lack of rivalry in consumption and the fact that consumers can be blocked from having access to programming (albeit at a cost), cable services are an example of what is known in the economics literature as an *excludable public good*.

¹⁶ For example, if forty million households had to get two boxes each at a cost of \$40 per year, the total cost would be \$3.2 billion. Data reported in “The Pitfalls of a la Carte: Fewer Choices, Less Diversity, Higher Prices,” NCTA Policy Paper, May 2004, suggest that this is the magnitude that would be involved.

developing and implementing new billing software systems to support the additional complexity.

In addition to the ongoing costs identified above, there would be significant transition costs in terms of customer confusion, increased service errors, and higher operator investment costs in new billing and customer-support systems.

17. These costs would be borne by consumers as well as cable operators. Moreover, if mandatory unbundling policies were put into effect, consumers would see degraded service quality and increased billing and service errors during the transition period as cable operators scrambled to meet the demands of a new, more complex way of doing business. Given cable operators' finite financial and managerial resources, implementing mandated unbundling would very likely also slow investments in other services, such as VoIP and various broadband offerings.

C. Cable Networks are Themselves Program Bundles

18. Just as a tier bundles different cable networks, a single cable network bundles different programming. Even a pay-per-view event bundles the various segments of video that constitute a single program. Each of these practices is an efficient response to the existence of transaction costs, including ordering, billing costs and the "hassle factor" that a consumer might incur if he or she had to order or be billed on a highly disaggregated basis. The fact that even a single network is a bundle of programming illustrates the importance of transaction costs and why full unbundling is silly. No one is proposing per-second pricing. One reason is that the transaction

cost of ordering and billing for programming on a per-second-of-viewing basis would be prohibitive. Thus, some degree of bundling is inevitable.¹⁷

19. As discussed in the next two sections, these three characteristics of cable television have important implications for the analysis of the effects of tiers and of policies that force unbundling.

IV. THE ARGUMENT THAT TIERS FORCE PEOPLE TO PAY FOR PROGRAMMING THEY DON'T WANT IS INCORRECT

20. Proponents of mandatory unbundling often assert that tiers force consumers to pay for programming they do not want. Although this argument is superficially appealing, careful economic analysis shows that it is false. Neither economic logic nor market facts support it.

21. A fundamental problem with the argument is that it confuses the economics of standard commodities, such as shirts or cans of tuna fish, with the economics of information goods, such as cable television programming.¹⁸ The argument that people are forced to pay for something they do not want implicitly assumes that including more channels in a tier raises the cost to society of providing that service. But, for the reasons discussed above, this implicit assumption is false: the additional cost of providing an existing cable subscriber access to additional networks in a tier is negative because of the costs that would have to be incurred to exclude the customer from receiving selected networks. Unbundling will not reduce the social costs of

¹⁷ Per-second billing would be the ultimate unbundling, and it clearly would have severe negative consequences in terms of the costs it would impose on billing systems.

¹⁸ When a good consists primarily of information, such as software, a movie, or cable television program, there often are huge costs associated with creating the first copy of the product, but very little costs of creating additional copies or of allowing additional users. For example, the cost of developing a new word processing system would be millions of dollars, but once-developed, copies could be distributed over the Internet at a cost of pennies each. It is widely recognized among economists that bundling can be an efficient way to distribute information goods. See, for example, Bakos and Brynjolfsson (1999) and Evans and Salinger (2004).

creating programming, but it will increase the costs of distributing programming.¹⁹ Hence, total costs will rise. Ultimately, these higher costs will adversely affect consumer welfare. Indeed, the higher costs include set-top boxes. Consequently, mandatory unbundling policies may force people to lease set-top boxes for which they have little use. And—unlike programming—each time another consumer has to get a set-top box because of mandatory unbundling, real resources are consumed and wasted.

22. Suppose that a consumer subscribes to a tier that contains a network that the consumer does not value watching. It might appear that the consumer is being forced to purchase something he or she doesn't want—the unwatched network—in order to get to get the services he or she does want—the other channels. However, removing that network from the tier could be expected to reduce other consumers' willingness to pay for the tier and thus reduce the extent to which they contribute to covering the costs of the first consumer's preferred programming. Hence, dropping the network from the tier might well lead to the first consumer's paying more for the programming he or she does watch. Once one takes these broader effects into account, one sees the fallacy of the argument that the consumer is being forced to pay more to get the programming he or she wants because other, unwanted programming is included in the tier.

23. A numerical example is presented in the Appendix (Example 1) to illustrate these points further. In this example, there are only two cable networks, but the insight generalizes to more realistic numbers. The example is structured so that any given consumer values only one of the two networks. This is exactly the type of situation where proponents of *a la carte* assert—with absolutely no basis in economic logic or market facts—that consumers will benefit because “they

¹⁹ There is another reason that it is not the case that the many are being forced to pay for the benefits of a few. Sports programming viewership is broad and many households watch some sports programming.

will not have to pay for networks they don't want." Fundamental principles of economics demonstrate how wrong this argument is. Straightforward calculations show that the tier price in this example would be identical to the *a la carte* price for a single channel if unbundling had no effect on distribution costs. Moreover, once one accounts for the increased distribution costs associated with offering networks on an *a la carte* basis, *a single network offered a la carte would sell for more than the two-network tier.*

24. It is helpful to compare and contrast a tier of cable television networks with a bundle of a standard commodity. For example, RadioShack sells electric plug adapters that allow a traveler to use an American electrical product, such as a laptop computer, in a foreign outlet.²⁰ RadioShack sells adapters in bundles, with adapters for Europe, Asia, and the United Kingdom in a single package along with an adapter that lets European plugs fit in American outlets. Radio Shack is in a competitive setting. They have to seek the least-cost way to provide benefits to consumers. RadioShack balances the additional production costs against the reduced stocking costs and reduced hassle costs for consumers. Evidently, RadioShack has concluded that a pack that works for a wide variety of countries is the most attractive offering. Even here, it is wrong to think that consumers are forced to pay for unwanted adapters—the price of individual adapters might well be higher because of the increased inventory and shipping costs that would be involved. Similar distribution cost savings very likely explain why buying golf irons as a set is cheaper on a per-club basis than buying each club separately. Moreover, even though some golfers never take their three iron out of the bag, the costs of distributing full sets of irons is sufficiently lower than the costs of distributing and selling irons on an individual basis, that net consumer benefits are higher when irons are sold as sets than sold separately.

²⁰ Evans and Salinger (2004) provide additional details.

25. In summary, even when there are incremental production costs triggered by adding (standard) commodities to bundles, the reduced distribution and sales costs can more than offset the production costs. And, in the case of cable television programming, there is no trade off between increased production costs and reduced distribution costs: tiers do not raise programming production costs but they do lower distribution costs.

V. MANDATORY UNBUNDLING CAN BE EXPECTED TO HARM CONSUMERS

26. The three fundamental characteristics of cable television also have important implications for the proper analysis of the effects of mandatory unbundling. There are three broad mechanisms through which mandatory unbundling can be expected to harm consumers. Specifically, eliminating or restricting the use of tiers will harm consumers by: (a) reducing consumers' abilities to derive the most viewing enjoyment out of existing programming; (b) increasing the retail prices of cable services; and (c) reducing the quality and variety of programming available.

A. Mandatory Unbundling would Reduce Consumer Benefits by Inefficiently Suppressing Sampling and Mix-and-Match Viewing

27. Eliminating or restricting the use of tiers would harm consumers directly by reducing their abilities to derive the most viewing enjoyment out of existing programming:

28. *Mandatory unbundling would prevent consumers from efficiently diversifying their viewing.* Because the costs of creating programming do not vary with the number of viewers, and because it is costly to exclude households from viewing specific networks, the outcome that would maximize the surplus of viewer benefits minus the costs of creating and distributing programming would be for everyone to subscribe to every network offered on a given system. That is, ignoring for the moment the need to compensate programming producers and cable

system operators, it is efficient to distribute all of the programming to all households.²¹ The reason is simple: it is costly to deny an incremental household access to the programming and that household may derive some benefit from the option of watching additional programming. A tier with a large number of networks allows a consumer efficiently to select certain programs shown on a given network even if he or she does not wish to view all of the programs on that network. This selective viewing can take place on a planned basis, such as when a viewer tunes in to USA Network during the Westminster Kennel Club show, or Outdoor Life Network during the Tour de France. Or the viewing can be on the spur of the moment, such as when a viewer tunes in to CNN or Fox News during a fast-breaking major news story, or The Weather Channel during severe storms. With mini-tiers or *a la carte* pricing, a consumer faces incremental charges when he or she wishes to watch programming on an additional network, and thus that consumer will be discouraged from watching programming on a wide range of networks. Suppose, for example, that The Disney Channel were offered solely on an *a la carte* basis for \$12 per month. Then a consumer who greatly liked one program on that network might nonetheless choose not to purchase it and thus forgo viewing that program. On the other hand, if The Disney Channel were offered as part of tier to which the consumer subscribed, then he or she would watch that one program on Disney.

29. *A la carte* pricing does not allow viewers cheaply to mix-and-match programming from different networks. The following extreme example illustrates a point that holds much more broadly. Suppose that members of a household like to watch one program per week on each of

²¹ This is an example of what economists call a “first-best” outcome. In contrast, a “second-best” outcome takes into account various real-world constraints, such as the need to allow suppliers to earn competitive rates of return on their investments.

thirty cable networks. Then, under an *a la carte* system, they would either have to pay individually for each of thirty channels or give up some of their preferred programming.

30. An illustrative example in the Appendix (Example 2) further demonstrates these points numerically. Reflecting actual demand conditions, the example considers a situation in which it is efficient for consumers to view their favorite programs on a variety of networks rather than simply watching one network all of the time. The example illustrates two key findings that follow from the demand and cost conditions inherent to cable television systems. First, mandatory mini-tiers or *a la carte* pricing tend to harm efficiency by promoting inefficiently narrow viewing patterns. Second, these effects can lead to reduced consumer welfare, as well as reduced overall economic efficiency.

31. *Mandatory unbundling would prevent consumers from efficiently sampling alternative cable networks.* As explained above, mandatory unbundling would limit the extent to which consumers watched their favorite programming on a wide variety of different networks. The underlying economic logic applies to situations in which consumers are aware of the programming available for viewing. In reality, consumers often are unsure or even unaware of what programming is available. Even if a consumer has some information about a program, she may not know her full reaction to it until she actually sees it. For instance, short of viewing one or more episodes of *American Chopper* on The Discovery Channel, who would have guessed that a show about building motorcycles would be a compelling drama about father-son relationships?

32. When a consumer subscribes to a tier containing a large number of channels, he or she can readily sample programming on the included networks—there are no extra charges for watching programs on a wide range of networks on either a one-off or repeated basis. In

contrast, under *a la carte* pricing, a consumer would have to subscribe to a network when he or she wanted to sample a program. In addition to the out-of-pocket expenses, the consumer would have to incur the time and hassle of ordering the network. Therefore, unbundling has an additional adverse effect: consumers are denied a low-cost means of learning about programming that they have not yet seen. Consumers and economic efficiency would be harmed by the absence of a low-cost means of sampling because consumers would be unable to find and view the mix of available programming that best suits their tastes. These effects are illustrated numerically by Example 3 in the Appendix.

33. In summary, even if mandatory unbundling had no adverse effects on the overall supply of cable television programming—which, as shown in Subsection C below, it would—mandatory unbundling would reduce the benefits that consumers derive from that programming.

B. Mandatory Unbundling would Very Likely Increase Prices

34. For a variety of reasons, mandatory unbundling can be expected to increase prices:

35. *Programming costs would be amortized over fewer subscribers.* Unbundling would reduce the number of subscribers to most or all networks. Because a cable network's costs are largely independent of the number of subscribers, unbundling would thus raise the subscription fee needed to cover costs: these costs would have to be amortized over a smaller number of subscribers. Consumers would end up paying more per network. Suppose, for example, that a cable network was breaking even under a business model where it was widely carried on expanded basic tiers. Now suppose that programmers and cable operators were forced to move to *a la carte* pricing. If every household responded by purchasing service for only half as many networks, then the network in question would have to double its price to cover its costs, which are almost entirely fixed. In the end: consumers would pay twice as much per channel; their

overall cable bills would remain the same; and the number of networks they received would decline by half.

36. Moreover, the academic literature summarized in the Appendix demonstrates that, when program producers and system operators are forced to focus on targeted audiences (as would happen under *a la carte* pricing), the most profitable business model may be to charge relatively high prices. The fact that less cost amortization and the need to engage in targeted pricing can lead to significantly higher prices is illustrated numerically by the Examples 1 and 2 in the Appendix.

37. *Mandatory unbundling would raise the costs—and thus prices—of cable programming.* Consumers would fare even worse under mandatory unbundling than the preceding discussion indicates. This is so for the following reason. That discussion assumed that total costs remained fixed. But, in reality, costs would rise as a consequence of mandatory unbundling. Specifically, mandatory unbundling would raise costs of distributing cable television programming and it would not give rise to any savings in the costs of producing the programming. The additional costs triggered by mandatory unbundling would include: (a) increased set-top box requirements; (b) increased marketing/consumer communication costs; and (c) increased customer-care costs, including billing and billing inquiries. In short, total costs would rise. Ultimately, some or all of these higher costs would be passed on to consumers and would reduce their economic welfare. Households paying these higher costs would include those who would prefer to purchase a bundle of networks and would derive no value from *a la carte* options.

38. *Mandatory unbundling would reduce overall cable viewership, which ultimately would raise the prices faced by consumers.* Through the mechanisms described above, restrictions on tiers would reduce overall cable television viewing. This means that programming costs would

be amortized over less overall viewing and fewer total viewers. Moreover, such restrictions would reduce opportunities for programmers and operators to generate advertising revenues that would offset their costs. Consequently, programmers and operators would have economic incentives to set higher prices. This is thus another way in which mandatory unbundling would harm consumers.

39. *Bundling can be an efficient way to recover the fixed costs of creating programming.* In some settings, the most efficient way to cover costs is to sell a single bundle (a mega-tier) to every subscriber.²² As discussed above, charging on a per-channel basis can discourage viewing that would otherwise create net social benefits. Thus, from the perspective of economic efficiency, it is desirable to charge consumers lump-sum charges for the right to view a bundle of programming.²³ In this way, a subscriber is not discouraged from watching programming for which his or her benefits exceed costs.

C. Mandatory Unbundling would Harm Consumers by Reducing Their Choice of Networks

40. The loss of low-cost mix-and-match viewing and the ability cheaply to sample would be particularly harmful to new and niche networks.²⁴ Consequently, the long-run effect of restricting tiers is to restrict viewer choice. Moreover, by forcing a less attractive business model

²² For a formal analysis of these issues, see Fang and Norman (2003).

²³ It is a simple matter to show that, if all households were identical, then efficient pricing would consist of a single tier containing *all* programming on the headend or satellite at a fixed price.

²⁴ The networks themselves recognize the harm they would suffer under *a la carte* pricing. The President of ESPN, the President of Discovery Communications, and the Chairman of TV One, for example, all have warned that mandatory *a la carte* pricing would harm niche and innovative networks and thus reduce programming variety. (See “The Pitfalls of a la Carte: Fewer Choices, Less Diversity, Higher Prices,” NCTA Policy Paper, May 2004, at 8, and the references cited therein.)

on programmers and cable system operators, mandatory unbundling would also reduce the quality of programming available to viewers. The specific mechanisms are:

41. *The supply of niche networks that attract many of their current viewers on an occasional basis would be severely reduced.* Because consumers would not be able to mix and match efficiently absent tiers, networks that many viewers watch only on an occasional basis would have difficulty attracting sufficiently many viewers on an *a la carte* basis to cover programming costs. This is so because networks would have to set their *a la carte* prices to capture value from intense users and such pricing would drive away general viewers who are only occasionally attracted to programming on those networks. Moreover, the small number of subscribers would also make it difficult to attract significant advertising revenues. The harm to the business models of these networks would ultimately translate into harm to those consumers who value niche programming. The academic economics literature has already identified niche networks as those most likely to be undersupplied, and mandatory unbundling would exacerbate this problem.²⁵ In sum, consumers would suffer from reduced programming variety under mandatory unbundling.

42. *The ability of new networks to enter the market would be severely reduced.* Consumers' ready ability to sample networks offered in large tiers benefits consumers indirectly because it provides an important vehicle for new networks to attract viewers and build customer bases. Mandatory unbundling would prevent consumers from efficiently sampling alternative cable networks. In the absence of a method for allowing consumers to engage in low-cost sampling, new networks would have significant difficulties making commercially successful launches because they would not be able to build up a subscriber base and they would have too few

²⁵ See, for example, Dixit and Stiglitz (1977).

subscribers to earn significant advertising revenues. Consequently, the long-run effect of eliminating large tiers is to limit viewer choice.

43. *Mandatory unbundling would reduce overall cable viewership and thus reduce the range and quality of programming available.* Through the mechanisms described above, restrictions on tiers would reduce overall cable television viewing. This means that there would be a smaller overall audience for programming delivered on MVPD systems. The standard economic prediction is that the incentives to produce a wide variety of high-quality programs would consequently fall. Intuitively, programming costs would be amortized over fewer viewers. Consumers would thus suffer from diminished programming quality and reduced variety.

44. Moreover, by reducing subscriber bases, mandatory unbundling would reduce opportunities for programmers and operators to generate advertising revenues. The loss of advertising revenues would harm consumers by reducing networks and system operators' financial incentives to create and distribute programming that consumers desire. For example, sports networks would have lower incentives to cover regional sporting events. These advertising effects would thus reinforce the adverse effects arising from smaller subscriber bases discussed above. Further, the adverse effects on advertising would likely fall disproportionately on new and niche networks because their subscriber bases would fall relative to those of established, broad-based networks and advertisers tend to follow audiences.²⁶

²⁶ Under *a la carte* pricing, a niche network might see its subscriber base shrink to the point that its program ratings would not be tracked, which would make it even more difficult to sell its advertising.

VI. REGULATIONS MANDATING UNBUNDLING WOULD BE UNWORKABLE

45. Regulations mandating themed mini-tiers would be unworkable. Simply put, there is no meaningful way to define such tiers.²⁷ Many networks do not fit into pigeon holes. A single cable television network may fall into a variety of categories. For example, how does one classify a network, such as CBS, that at different times shows news, sports, family programming (*e.g.*, *Touched by an Angel*), and adult dramas (*e.g.*, *CSI*)?

46. Moreover, cable television networks would have economic incentives to reposition their content in order to “game” arbitrary regulatory definitions and distinctions. Given any definitions, programmers could be expected to find ways to get around those definitions in order to avoid being placed in undesirable tiers. For instance, if having a specific type of programming above a certain percentage threshold triggered an unfavorable regulatory categorization, cable networks would have artificial incentives to diversify their content into other categories. To the extent that each network was driven to offer a mix of programming partially to replicate current basic offerings, a mandatory unbundling policy would have done nothing but raise costs and reduce consumer choice. More generally, to the extent that program suppliers were able to design their networks to game the rules, program offerings would be distorted, reducing the effectiveness of the regulations, generating efficiency costs, and ultimately harming consumers.

²⁷ In addition to the economic issues discussed here, serious concerns regarding unwarranted limitations on speech arise when certain types of programming are segregated based on content.

47. Consider attempts to define a sports mini-tier.²⁸ One would have to define what constitutes a sports network. Should the retransmitted Fox broadcast network be placed in a sports mini-tier because it covers the National Football League, Major League Baseball, and NASCAR races? Similarly, TNT is a general entertainment channel that makes significant expenditures to obtain sports programming.²⁹ Is Outdoor Life Network, which covers the Tour de France, competitive bass fishing, and rodeos a sports channel? Or, because it covers hunting, recreational fishing, and horseback riding, is it a lifestyle channel? Would the definition be based on the percentage of programming that was sports oriented, or would it be based on the percentage of costs spent producing the content, including the costs of sports rights? In either case, how would “sports” be defined, and how, for instance, would some types of sports programming be distinguished from “news.” How would regulators respond if networks started showing just enough sports to stay under the thresholds that would trigger banishment to sports mini-tiers?³⁰ The list of questions seems endless.

48. *A la carte* pricing regulations would also raise troubling questions about whether they would be workable. Suppose, for example, that cable operators were required to offer networks on an *a la carte* basis in addition to their current tiers. The question would arise whether the *a la carte* prices were “too high” relative to the bundled prices. Industry critics would likely assert that price regulation was needed to prevent a cable system operator from offering such large

²⁸ In addition to the problems noted in the text, it should be observed that Congress has expressed the desire that sports programming be broadly accessible, which runs counter to creating segregated sport tiers. Although it is conceivable that mandatory unbundling could lead to sports programming being shown primarily on mixed networks as programmers gamed the system, it could hardly be counted as a benefit of the regulation that, in the end, it didn’t work.

²⁹ For example, TNT purchases the rights to televise National Basketball Association games, which are among the most expensive sports rights available.

³⁰ Moreover, if policy makers implement a mandatory *a la carte* system, then they will also have to confront the possibility that these regulations conflict with must-carry regulations.

discounts for purchasing multiple channels that single-channel purchases were not realistic alternatives. As experience has shown, however, any attempt to regulate price levels and structures is likely to be very complex and give rise to adverse unintended consequences.³¹ The need to engage in such price regulation is yet another cost and drawback of mandatory unbundling.³²

VII. CONCLUSION

49. For the reasons demonstrated above, mandatory unbundling would harm consumers by: (a) inefficiently reducing the benefits derived from existing programming; (b) raising the retail price of existing cable programming; and (c) reducing the range and quality of programming available. Mandatory programming structures are not the answer to any meaningful public policy question. Regulators do not have the ability to impose structures that would likely improve market performance and raise consumer welfare. Mandating *a la carte* pricing or the use of themed mini-tiers very likely would significantly harm consumers, competition, and economic efficiency.

³¹ As I have noted elsewhere, “rate regulation is very difficult in an industry such as cable television, where product or service quality can vary widely across suppliers and over time, and where different consumers place very different valuations on various product attributes.” (“An Economic Analysis of the Claims Made by Dr. Mark Cooper in ‘Cable Mergers, Monopoly Power and Price Increases’,” 28 July 2003.)

³² Banning bundles entirely is not a solution. Doing so would amount to regulating prices upward and would deny consumers the benefits of efficient bundling.

VIII. APPENDIX

50. In order to understand the effects of mandatory unbundling, it is helpful to have a basic understanding of the general theory of bundling that economists have developed. Hence, the first part of this appendix reviews that theory.³³ It is also helpful to consider simple numerical examples in order to illuminate the illogic of the arguments made by proponents of mandatory *a la carte* pricing or themed mini-tiers. By considering simplified versions of reality, one can keep careful track of the cost and price consequences of mandatory unbundling and thus accurately determine its effects on consumer welfare and economic efficiency. Parts B through D of this appendix present three illustrative examples.

A. A Brief Review of the Academic Literature on Bundling in Typical Commodity Markets

51. The academic literature has identified three broad reasons why a supplier might bundle its goods or services:

- *Transaction cost savings.* In many situations, it is much cheaper to distribute and sell a set of component products together in a single package rather than individually. This explains, for example, why consumers purchase complete automobiles rather than thousands of separate components. Transaction cost savings can be enjoyed by both suppliers and consumers. On the supplier side, cost savings can arise from economies of packaging, stocking in inventory, or explaining options to customers. Suppliers have economic incentives to pass some or all of these savings on to their customers. In addition, customers may enjoy direct cost savings. For example, it would be much more

³³ However, as the body of this report demonstrates, it is also essential to bring into the analysis certain central features of the MVPD market that critically affect the analysis of bundling and its effects on consumer welfare.

costly in terms of time and confusion if a consumer had to purchase thousands of parts separately in order to end up with an automobile.

- *Ability to match prices to consumer preferences.* Economists have identified several circumstances under which selling products in bundles allows the supplier better to match prices with consumer preferences.³⁴ In addition to increasing the supplier's profits, this practice can also raise both net consumer benefits and overall economic efficiency.
- *Leverage into Adjoining Markets.* Under a leverage motivation, a supplier uses its market power with respect to one product to gain an advantage in the sale of a second product by tying the sales of the two products together. Leveraging can take the form of driving rivals out or excluding entrants. It is the theory underlying complaints about Microsoft's bundling of its operating system and other programs, such as a browser or media player. A variant of leveraging is bundling to deter entry. The idea here is that bundling forces an entrant to develop a bundle of its own, which raises the costs and risks of entry.

The leverage theory clearly is irrelevant to the analysis of bundling cable programming: there is no evidence that tiers have been created to make entry by new networks or new operators more difficult. In fact, tiers have the opposite effect. Consequently, the leverage motivation will not be discussed further. In contrast, the cost-savings associated with cable programming tiers are significant and these cost savings are an important efficiency benefit of current cable industry business practices. These cost savings are discussed in the text.

³⁴ Stigler (1963) was one of the first economists to analyze this motivation. This motivation is also sometimes referred to as price discrimination or sorting.

52. For the remainder of the present section, consider the preference-matching motivation for bundling. The general academic literature establishes that the analysis of bundling motivated by preference matching is highly complex and that bundling often is efficient in comparison with selling unbundled components *even if (unlike here) bundling gives rise to no transaction costs savings*. Under mandatory *a la carte* pricing, a cable operator would be forced to sell each network separately, though presumably the operator would be free to charge whatever prices for a network that it chose. As shown by the seminal work of Adams and Yellen (1976), for example, banning bundling by a profit-maximizing monopolist could harm efficiency. Of course, cable system operators in the United States are almost never monopolists; each of them faces competition, at a minimum, from two national direct broadcast satellite television providers. But the academic literature provides a clear warning to those who claim that unbundling would lead to pricing that better promotes efficiency as measured by the extent to which consumption benefits exceed supply costs.

B. Example 1: Exploding a Myth

53. The first example illustrates how wrong the proponents of mandatory unbundling are when they assert that tiers force consumers' to pay for programming they do not want. Indeed, once one properly account for costs, one sees that a mandatory unbundling policy would force many consumers to pay for equipment and capabilities that they do not want. Specifically, this example illustrates both: (a) the fundamental fallacy of the argument that tiers force consumers to pay for programming they do not want; and (b) the way that unbundling can raise cable distribution costs and harm consumers.

54. In this example, an integrated monopolist produces two cable television networks and distributes them on a single cable television system. In reality, almost all cable systems face

competition. Moreover, actual cable networks are often owned by companies that are not cable system operators.³⁵ However, consideration of an integrated monopoly facilitates tracking the full cost consequences of unbundling, and the analysis can be extended to more realistic—and correspondingly complex—situations.

55. Consumer demand for the two networks has the following structure. Any given consumer values only one of the two networks. The assumption that no consumer wishes to view programming on both networks clearly is extreme, but this is the situation in which unbundling proponents should expect unbundling to do the most to protect consumers. The market demand for each network sold *a la carte* is a simple linear demand curve: $D_A(p) = 10 - p$. The demand curve is the same for each network. Observe that, because any given consumer values only one of the two networks, the demand for a tier comprising both networks is $D_T(p) = (10 - p) + (10 - p) = 20 - 2p$.

56. Now consider the cost side of the market. Each network costs a fixed amount, F , per year to create. The system costs are sunk. When the two networks are offered only as a single tier, there is an ongoing per-subscriber distribution cost of c . This figure includes the costs of maintaining a billing account, as well as the costs of any necessary equipment in the customer's home, such as a set-top box. Because *a la carte* sales require more sophisticated billing and more complex set-top boxes, the ongoing per-subscriber distribution cost is $c + \delta$, where the Greek letter delta is a positive number representing the additional cost.

³⁵ For a discussion of ownership patterns, see Michael L. Katz, "An Economic Analysis of the Claims Made by Dr. Mark Cooper in 'Cable Mergers, Monopoly Power and Price Increases'," 28 July 2003, Section VII.

57. By the well-known formula for profit-maximizing prices, the cable company would set $p_T = \frac{1}{2}(10 + c)$ if allowed to price as it sees fit. Under mandatory unbundling, however, the firm would set $p_A = \frac{1}{2}(10 + c + \delta)$ for each network separately.

58. Suppose that $\delta = 0$. Then consumers pay the same amount, whether or not bundling is allowed: $p_T = \frac{1}{2}(10 + c) = p_A$. Total costs are the same whether or not bundling is allowed. It is simply false to claim that bundling forces consumers to pay for channels they don't want.

59. Now consider the more realistic situation in which $\delta > 0$. It is useful to interpret δ as the cost of a set-top box. Now consumers pay more to purchase a single channel under *a la carte* pricing than they would pay to receive *both* channels on a tier: $p_A = \frac{1}{2}(10 + c + \delta) > \frac{1}{2}(10 + c) = p_T$! Even though the cable operator picks up half of the cost of the set-top box, consumers still have to pay the other half: $p_T - p_A = \frac{1}{2}\delta$.³⁶ Mandatory unbundling thus forces consumers to pay for set-top boxes that they do not value. Moreover, overall costs are higher under *a la carte* and the firm's profits are lower. In sum, everyone is worse off under mandatory unbundling. The reason is clear: *a la carte* pricing triggers additional distribution costs and gives rise to no program cost savings (programming costs $2F$ whether every system subscriber gets every network or not).

60. The effects of mandatory unbundling are worse still once one recognizes that, in fact, people typically value access to multiple networks. The adverse effects of mandatory unbundling in those situations are illustrated by the next example.

³⁶ The cable operator absorbs half of the cost of the set-top box in this example because it is assumed to be a monopolist. In a competitive setting, the operator would have to pass the costs on to consumers to survive.

C. Example 2: *A la carte* as a Failing Business Model

61. The second example captures two real-world features that are critical to the analysis: (a) each tier or network is a bundle of programs, and (b) consumers have heterogeneous values of the component programs. This example illustrates how mandatory unbundling harms consumers and efficiency by limiting the extent to which consumers engage in efficient mix-and-match viewing.

62. Suppose there are two networks of programming, each of which cost one million dollars per month to create. Consider a cable system with 100,000 subscribers. Suppose half of the subscribers value network *A* by \$18 per month, and network *B* by \$8 per month. Suppose the other half value network *A* by \$8 per month, and network *B* by \$18 per month. Moreover, suppose that every household values the two networks together by \$26 month (*i.e.*, a household likes to mix and match programming on the two networks).³⁷

63. A two-network tier priced at \$26 would cover costs and lead to efficient viewing—everyone would subscribe to and view both networks. *A la carte* pricing, however, would fail. There is no *a la carte* pricing that would allow the networks to cover their costs. A price of \$18 per month would lead to only half of the subscribers paying for a network, and thus would generate only \$900,000 in revenues. Setting price at \$8 per month would attract more subscribers, but would generate even less total revenue for the network, \$800,000. If the cable system had other operating costs, which of course it would, then *a la carte* would fail to cover costs by even more. Thus, in this example, mandatory *a la carte* pricing would destroy the market: no programming would be produced and distributed.

³⁷ The logic of the example would also hold if the value of a two-channel tier were somewhat less than the sum of the individual values because the two networks were partial substitutes for one another.

64. In a variant of this example, *a la carte* pricing could raise enough revenue to cover costs, but it could still lead to a second problem. This problem can be seen by modifying the example as follows. Suppose that half of the subscribers valued network *A* by \$20 per month and network *B* by \$8 per month, and the other half of the subscribers valued network *A* by \$8 per month, and network *B* by \$20 per month. Then an *a la carte* price of \$20 per network would cover the programming costs, and the operator would offer both networks for sale. However, faced with a price of \$20 per channel, each household would purchase the rights to view only one network, even though it would be efficient to view programs on both. This inefficiency does not arise under tiering because the tier price would be \$28, while purchasing the two networks on an *a la carte* basis would cost a household \$40.

D. Example 3: *A la carte* Destroys Option Value

65. In the two previous examples, there was no uncertainty and consumers were fully informed about available programming. In reality, consumers often are unsure of how much they would enjoy particular programming or are even unaware of what programming is available. Even if a consumer has some information about a program, she may not know her full reaction to it until she actually sees it. The present example captures this uncertainty and demonstrates how tiers are an efficient response to the situation.

66. Again, for simplicity, there are only two networks. Each network shows a single program. A consumer's valuation of a program is uncertain until the consumer actually views the program. Prior to viewing, there is a one-half chance that a consumer will value viewing at \$12 and a one-half chance that the consumer will value viewing at \$4. The consumer has time to watch only one program total.

67. The efficient outcome is for the consumer to subscribe to both networks and scan for a high-value program. Three quarters of the time, he or she would end up watching a program valued at \$12. One quarter of the time, he or she would end up watching a program valued at \$4. Expected viewing benefits would thus be \$10.

68. This is not, however, what would happen under *a la carte* pricing. Based on expected viewing benefits, a consumer would be willing to pay $\frac{1}{2} \$12 + \frac{1}{2} \$4 = \$8$ to subscribe to a single network. The value of a second network would arise when the first network's show turned out to be low value, while the second network's turned out to be high value. This happens one quarter of the time. Hence, the value of subscribing to a second network is $\frac{1}{4} (\$12 - \$4) = \$2$. The cable operator would compare selling one network per subscriber at a price of \$8 or two networks per subscriber at a price of \$2 each. Clearly, the operator would choose to set the *a la carte* price equal to \$8 per network. Each consumer would thus subscribe to only one network under *a la carte* pricing. Thus, one quarter of the time, a consumer would watch a program from which he or she derived only \$4 of enjoyment even though there was another program from which he or she would derive \$12 of enjoyment and which would cost society nothing to provide to that consumer.

69. In contrast to *a la carte* pricing, tiered pricing would lead to the efficient outcome. In particular, the cable operator would set the tier price at \$10. All consumers would subscribe to both networks and would watch whichever program offered the higher value.³⁸

³⁸ Observe that, if the operator were forced to offer programming on an *a la carte* basis, but also allowed to offer a tier discount, then it would offer each network separately for \$8 and a two-channel for \$10. All consumers would purchase the bundle, and the sole effect of the regulation would be to waste resources by requiring the operator to implement the capability to support *a la carte* pricing.

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X. ABOUT THE AUTHOR

70. Michael L. Katz is the Sarin Professor of Strategy and Leadership at the University of California, Berkeley. He holds a joint appointment in the Haas School of Business Administration and the Department of Economics. He has also served on the faculty of the Department of Economics at Princeton University. He received his A.B. from Harvard University *summa cum laude* and his doctorate from Oxford University. Both degrees are in Economics.

71. He specializes in the economics of industrial organization, which includes the study of antitrust and regulatory policies. He regularly teaches courses on microeconomics and business strategy. He is the co-author of a microeconomics textbook, and he has published numerous articles in academic journals and books. He has written academic articles on issues regarding the economics of network industries, systems markets, telecommunications policy, and antitrust enforcement. He is recognized as one of the pioneers in extending the theory of network effects to competitive settings. He is a co-editor of the *Journal of Economics and Management Strategy* and serves on the editorial board of the *California Management Review*.

72. In addition to his academic experience, he has consulted on the application of economic analysis to issues of antitrust and regulatory policy. He has served as a consultant to both the U.S. Department of Justice and the Federal Communications Commission (“Commission”) on issues of antitrust and regulatory policy. He has served as an expert witness before state and federal courts. He has also provided expert testimony before a state regulatory commission and the U.S. Congress.

73. From January 1994 through January 1996, he served as the Chief Economist of the Commission. He participated in the formulation and analysis of policies toward all industries

under Commission jurisdiction. As Chief Economist, he oversaw both qualitative and quantitative policy analyses.

74. From September 2001 through January 2003, he served as the Deputy Assistant Attorney General for Economic Analysis at the U.S. Department of Justice. He directed a staff of approximately fifty economists conducting analyses of economic issues arising in both merger and non-merger enforcement. Their principal professional focus was on understanding and projecting the impacts of various business practices and public policy decisions on consumers' economic welfare. His title as Deputy Assistant Attorney General notwithstanding, he is not an attorney.