

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
BellSouth Telecommunications, Inc.	)	
Request For Declaratory Ruling That State	)	
Commissions May Not Regulate	)	
Broadband Internet Access Services By	)	
Requiring BellSouth To Provide	)	WC Docket No. 03-251
Wholesale Or Retail Broadband Services	)	
To CLEC UNE Voice Customers	)	
	)	
Notice Of Inquiry	)	

**COMMENTS OF VERIZON  
IN RESPONSE TO NOTICE OF INQUIRY**

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**COMMENTS OF VERIZON<sup>1</sup>  
IN RESPONSE TO NOTICE OF INQUIRY**

**SUMMARY**

The Commission need not, and should not, take action to regulate telecommunications bundles. In economic terms, bundling refers to the practice of selling two or more goods in combination that could be sold separately, typically with the price of the bundle discounted from the sum of the component parts. Bundles are commonplace in competitive markets, and in fact are seen in a wide variety of goods and services. Electronics manufacturers, for example, create bundles when they combine radios with alarm clocks, freezers with refrigerators, and DVD players with televisions. Grocers create bundles when they prepare and package different lettuces and other vegetables into bags of mixed salad greens. Hotels offer special packages that bundle together multiple nights for a flat rate, often including additional services such as

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<sup>1</sup> The Verizon telephone companies ("Verizon") are the local exchange carriers and interexchange carriers identified in Attachment A to these comments.

breakfast. Economists and courts alike recognize that in almost all cases, bundles are a product of competition, promote economic efficiency, and enhance consumer welfare.

In this Notice of Inquiry, the Commission asks how these principles apply to the bundles that are offered in the telecommunications industry today. Specifically, the Commission has inquired about the effect on consumers and competition when telecommunications providers “bundle their legacy services with new services, or ‘tie’ such services together.” *See Notice* ¶ 37.<sup>2</sup> As Verizon demonstrates below, bundling in the telecommunications industry – like bundling generally – provides benefits to consumers while increasing efficiency and promoting competition.

Indeed, bundling has become a key tool that telecommunications companies are using to compete with each other. Market forces have led different carriers to attempt to attract consumers by creating bundles that package together a variety of different communications services, such as local telephone service with long distance service, wireless service with wireline service, and broadband access with video programming. These bundles appeal to consumers for a number of reasons. For example, consumers do not need to shop for and combine communications products that they want to use together. Bundling has also benefited consumers through lower telecommunications prices, as carriers have passed along to consumers the savings realized from the efficiencies of combining products together.

Bundling also promotes competition in the telecommunications industry. For example, carriers compete on the basis of designing bundles that are tailored to meet consumers’ communications needs while providing consumers the convenience they desire. Bundling has

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<sup>2</sup> *BellSouth Telecommunications, Inc. Request for Declaratory Ruling*, WC Docket No. 03-251, Notice of Inquiry, ¶ 37 (rel. Mar. 25, 2005) (“*Notice*”).

also fostered greater price competition, as carriers achieve greater efficiencies through bundling and are able to offer attractive package prices. Bundling has also facilitated the market penetration of new technologies, thus enhancing intermodal competition for a variety of communications services. And, although economists have concluded that one particular type of arrangement may potentially be of concern in certain narrowly limited circumstances, those circumstances are rare and inapplicable to today's telecommunications bundles. Instead, market forces in the communications industry are working to ensure that products are offered separately, in bundles, or both, depending on consumer demand and economic efficiency.

As Verizon demonstrates below, the Commission should allow these market forces to continue shaping carriers' bundling practices and should refrain from regulatory intervention. Part I below describes the consumer benefits and economic efficiencies that arise from bundling generally, as well as the effect that bundles have on competition. Part II then demonstrates that the bundles offered in the communications industry in particular enhance consumer welfare, promote efficiency, and promote competition.

**I. Bundling Promotes Economic Efficiency And Benefits Consumers**

This Commission has noted that "allowing all carriers to bundle products and services is generally procompetitive and beneficial to consumers."<sup>3</sup> Economists and courts alike have also widely recognized that the sale of products as a bundle instead of, or in addition to, selling the

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<sup>3</sup> *1998 Biennial Regulatory Review – Review of Customer Premises Equipment and Enhanced Services Bundling Rules in the Interexchange, Exchange Access and Local Exchange Markets*, 16 FCC Rcd 7418, ¶ 14 (2001) ("1998 Biennial Review"); *Bundling of Cellular Customer Premises Equipment and Cellular Service* 7 FCC Rcd 4028, ¶ 19 (1992) ("there appear to be significant public interest benefits associated with the bundling of cellular CPE and service. . . . [B]undling is an efficient promotional device which reduces barriers to new customers and which can provide new customers with CPE and cellular service more economically than if it were prohibited.").

products separately is typically beneficial to competition and consumers and is rarely harmful. *See, e.g.*, Declaration of David S. Evans (“Evans Decl.”) ¶¶ 45-53 (attached as Attachment B); *Grappone v. Subaru of New England, Inc.*, 858 F.2d 792 (1st Cir. 1988) (Breyer, J.).

Dr. David Evans, an economist who has extensively studied the competitive effects of bundling, explains that bundling is a broad term that refers to the practice of selling two or more goods in combination that could be sold separately, typically with a discount for the bundle as compared to the sum of the prices of the individual components. *See* Evans Decl. ¶¶ 8, 12-18. Bundling often enhances efficiency and benefits consumers. Bundling allows sellers to take advantage of economies of scale and other efficiencies that may not be achievable when the individual products are offered separately. *See id.* ¶¶ 20-29. For example, offering goods in a bundle rather than separately often reduces costs by minimizing packaging costs, conserving shelf space, streamlining inventory procedures, and simplifying distribution and marketing efforts. In such cases, by offering the products as a bundle, the seller can reduce its own production, distribution, and marketing costs, thus producing the products more efficiently. *See id.* More efficient production ultimately leads to attractive package prices, which benefit consumers.

Consumers benefit from bundling in other ways as well, such as the simplification of the selection and purchase of products. Choice can be costly to consumers; it takes time and effort to make informed decisions, increasing the transaction and search costs of any particular purchase. *See id.* ¶¶ 22-23. Bundles that help to narrow choices can benefit consumers by reducing these costs. Consider the various options that automobile manufacturers offer on new cars, ranging from cup holders to navigation systems to different types of engines. If manufacturers only offered options individually, a new car buyer would have to separately

evaluate each option to determine what features to include on her car and what features to omit. Many consumers, however, prefer not to wade through every possible combination of hubcaps, car stereos, and seat upholstery. Automobile option packages that combine these features into a handful of bundles reduce the transactions costs of a car purchase by saving consumers this time and effort. Savings in transaction and search costs, together with savings in production that lead to lower prices, often make bundling more efficient and beneficial to consumers, even if, for example, some car buyers end up taking heated seats that they do not want in order to get the sun roof that they do want. *See id.*

As Dr. Evans explains, there are a variety of different types of bundling arrangements, and different terms are used to refer to each. For example, “full mixed bundling” is a particular type of bundling where all of the components of a bundle are sold both separately as well as together. *See id.* ¶¶ 13-16. With the advent of downloadable music, consumers often have the choice of purchasing an artist’s songs individually from a website such as iTunes or purchasing pre-compiled bundles of an artist’s songs on a CD from a music store. *See id.* ¶¶ 22-23. Full mixed bundles (like most bundles) promote efficiency, competition, and consumer benefit by enabling the seller to provide goods and services at a lower cost and by facilitating consumer choice, as discussed above. Moreover, economists and the antitrust law recognize that full mixed bundling presents no anticompetitive concerns. *See id.* ¶¶ 15, 75 & n.44.

“Tying” is another type of bundling. Although “tying” is sometimes used in the antitrust arena as a short hand reference to the anticompetitive use of tying arrangements, Dr. Evans explains that tying in fact refers to a much broader set of bundles, the great majority of which enhance efficiency, benefit consumers, and pose no potential anticompetitive concerns. Evans Decl. ¶¶ 15, 45-53. Tying occurs anytime goods are bundled and at least one of the goods is not

available separately. Specifically, when goods are tied, consumers cannot get the “tying” product without also taking the “tied” product. *See id.* ¶ 15. For example, sneakers are generally sold with shoelaces; consumers therefore cannot buy the sneakers (the tying product) without also buying the shoelaces (the tied product), although consumers can buy shoelaces separately. *See id.* ¶ 13. “Pure bundling” is a specific type of tying where none of the components of the bundle is available separately. Newspapers are generally sold as pure bundles; consumers cannot get the sports section without also buying the classified section, and vice versa. Tying generally does not pose competitive concerns and, like other forms of bundling, often increases economic efficiency and benefits consumers. *See id.* ¶¶ 20-36.

In fact, tying can offer economic benefits unique to tying, in addition to the benefits of bundling generally. In particular, tying can increase economic efficiencies and benefit consumers by enabling sellers to offer goods or services in bundles that may not be produced if they had to be offered separately. *See Evans Decl.* ¶¶ 33-36. As discussed above, bundling often enables sellers to reduce their production costs and to produce goods or services more efficiently. In some cases, these efficiencies of bundling can make the difference between whether it is or is not profitable for sellers to offer a product at all. For example, a newspaper publisher may be able to produce a single newspaper containing national news, sports, real estate, and entertainment sections because the cost of producing a newspaper is high, but the cost of adding any particular content is low. A newspaper that includes a variety of features will attract a sufficient number of buyers for the publisher to earn a profit. But if the publisher could not tie his sections into a single paper and instead had to offer separate newspapers for each topic, it is unlikely that the demand for any of the individual newspapers would justify the costs of producing them – and the publisher may abandon the newspaper market altogether. In this

example, tying promotes efficiency and benefits consumers, even though some consumers will receive newspaper sections in which they have no interest. Tying enables the publisher economically to produce and to sell the same consumers the sections that they do value, when they otherwise would not be offered at all.

In addition to its positive effects, tying (like most bundling) generally places no burden on competition. This is because, to the extent that the tying product can be economically offered separately and there is sufficient demand for the standalone product, either the tying seller will unbundle the tie – or his competitors will. Thus, if a seller engages in tying, it may be that there is no significant demand for the tying product alone, that the costs of offering the tying good alone are prohibitive, or that competitors are efficiently offering the same or similar product without the tie. In all of these scenarios, there is no anticompetitive effect to the seller's decision to tie. In rare cases, however, when certain preconditions are met, economists and antitrust courts have concluded that tying may have anticompetitive effects. *See* Evans Decl. ¶¶ 45-53. The key prerequisite to any anticompetitive effect from tying is that the seller must have market power in the *tying* product. As then-Judge Breyer has explained, the concern is that a seller with market power in the tying-product market – in our shoe example above, the sneaker manufacturer – may use that power to coerce buyers also to purchase the tied product – shoelaces – from the seller. *See Grappone*, 858 F.2d at 795-96. There can be no anticompetitive effect from tying, however, if the seller does not have substantial power in the *tying*-product market. *See id.*; Evans Decl. ¶¶ 15, 45-53; *see also, e.g., PSI v. Repair Services, Inc. v. Honeywell, Inc.*, 104 F.3d 811, 817-18 (6th Cir. 1997). For example, if our sneaker manufacturer discussed above had substantial market power in the *tied* market instead of the tying market, there would be no anticompetitive effect to his refusal to offer shoes without shoelaces; if there were significant

demand for sneakers without shoelaces, those consumers would simply obtain laceless sneakers from other competitors in the sneaker market.

## **II. The Bundles Offered In Telecommunications Today Illustrate the Benefits of Bundles**

The bundles that are offered in the telecommunications industry today illustrate the pro-competitive and pro-consumer benefits of bundling. As discussed in more detail below, although bundles are not new to the communications industry, bundling has become more prevalent in recent years as competition presents carriers with increasing pressure to tailor products to suit consumer needs at attractive prices. As the Commission has recognized, “[b]undling encourages competition by giving carriers flexibility both to differentiate themselves from their competitors and to target segments of the consumer market with product offerings designed to meet the needs of individual customers.”<sup>4</sup> In fact, new competitors have often led the way in bundling, using bundles to attract customers. Telecommunications bundles benefit consumers by facilitating product selection in a market of ever-expanding choices, while at the same time producing attractive package prices as a result of price-based competition. By the same token, bundling forwards the Commission’s goal of promoting technological innovation and facilities based competition, as bundling encourages carriers to invest in facilities and technologies to offer a wider variety of communications products to compete in the bundled market and encourages consumers to try new products. Finally, economic analysis and precedent from the antitrust courts demonstrate that the Commission’s concerns that some telecommunications bundles may have anticompetitive effects are unfounded. In the absence of demonstrated anticompetitive

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<sup>4</sup> 1998 Biennial Review, ¶ 14.

effects, and in light of the pro-consumer and pro-competitive benefits of bundling, regulatory intervention over bundles would be unwarranted and counterproductive.

**A. The Growth Of Bundling In The Communications Industry**

Bundling is not new to the communications field, or to the telecommunications industry specifically. For example, cable companies have offered programming in bundles, or tiers of channels, for decades.<sup>5</sup> Incumbent local exchange carriers have long offered different packages for local phone service, including unlimited local calling plans that include a bundle of local calling minutes in the flat monthly fee rather than charging for each local call. For many years, local telephone companies have offered packages of calling services, such as call waiting and caller ID.

In more recent years, companies have used bundling to combine a wider variety of different types of communications products. Carriers in the wireless industry were some of the first companies to use bundles in this manner, marketing rate packages that bundled together local calling and long distance calling for a flat monthly fee. *See* Hassett Decl. ¶ 84.<sup>6</sup> Wireless plans have also come to include bundles of value added calling services, such as voice mail, caller ID, and call waiting.

Using these bundling strategies, wireless carriers have succeeded in increasing wireless penetration of the broader telephony market – so much so that wireline minutes are being increasingly replaced by wireless calls, and growing numbers of consumers are abandoning their

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<sup>5</sup> *See, e.g.*, FCC, Report On the Packaging and Sale of Video Programming Services to the Public at 8-9 (Nov. 18, 2004).

<sup>6</sup> Declaration of Michael K. Hassett, Kathy Koelle, Katherine C. Linder, and Vincent J. Woodbury, submitted in *Verizon Communications and MCI, Inc. Applications for Approval of Transfer of Control*, WC Docket 05-75 (Mar. 9, 2005) (“Hassett Decl.”).

landline phones altogether in favor of wireless ones. *See* Hassett Decl. ¶¶ 72-87.<sup>7</sup> Because of the competitive pressure exerted by wireless carriers and their rate packages, wireline and cable companies have responded with their own bundles combining local calling, long distance, and calling services. *See* Hassett Decl. ¶ 84 & Ex. 2. Verizon and other incumbents, for example, now offer residential packages that resemble wireless bundles – combining unlimited local, regional toll, and long distance calling with different combinations of value added services.

The trend of offering bundles combining different types of communications products continued with the expansion of broadband. In the late 1990s, cable providers took a leadership position in the broadband market by offering a bundle of their traditional video products with high-speed Internet access.<sup>8</sup> Telecommunications carriers have also followed this trend, offering bundles of their traditional products – voice telephony – with high-speed Internet access.

Verizon, for example, offers bundles including local and long distance calling and Verizon's DSL broadband service.

Bundling has also aided communications firms' expansions into new markets to provide additional competition. For example, cable companies have promoted their new voice products through "triple-play" bundles that combine voice with their video programming and broadband

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<sup>7</sup> *See also* Declaration of Robert W. Crandall and Hal J. Singer, submitted in *Verizon Communications and MCI, Inc. Applications for Approval of Transfer of Control*, WC Docket 05-75 (Mar. 9, 2005) (discussing the displacement of wireline minutes by wireless minutes).

<sup>8</sup> *See, e.g.*, T. Barnich *et al.*, xchange, *Cable's Triple Crown Bundle* (Aug. 1, 2003), at [www.xchangemag.com/articles/381consumer1.html](http://www.xchangemag.com/articles/381consumer1.html) (that "[c]able modem service generally is deployed as part of a package featuring video" is one of the key reasons for the "leadership of cable's high-speed Internet access"); FCC, Industry Analysis and Technology Division, *High Speed Services for Internet Access as of June 30, 2004* at Table 1 and Chart 2 (December 2004), at [http://www.fcc.gov/Bureaus/Common\\_Carrier/Reports/FCC-State\\_Link/IAD/hspd1204.pdf](http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd1204.pdf) (cable modems constituted over half of all high-speed access lines consistently from December 1999 to June 2004).

services.<sup>9</sup> Cable's triple-play bundles have helped cable companies successfully to penetrate the telephony market. Cable companies offered voice telephone service to approximately 41 percent of homes nationwide at the end of 2004. *See* Hassett Decl. ¶¶ 30-33. For example, Cablevision offers an all-distance bundle that includes unlimited local and long distance telephone calls plus digital cable and high speed Internet access. *See* Hassett Decl. ¶ 36. The price of Cablevision's triple-play bundle is about the same amount that many of its customers already pay just for digital cable and high speed Internet access. Cablevision thereby uses bundling to ease its entry into the voice market, as Cablevision customers "are essentially receiving their voice service for free."<sup>10</sup>

As was the case with wireless bundles, telecommunications carriers have responded to cable's triple-play bundles by introducing their own. Telecommunications companies, which do not currently offer their own video programming, have partnered with digital satellite television providers to offer their own version of voice-broadband-video bundles. For example, Verizon has partnered with DirecTV to offer a bundle combining Verizon's local and long distance calling service, Verizon's DSL broadband service, and DirecTV's video programming. Through this partnership, Verizon and DirecTV (much like many cable companies) offer customers voice, broadband access, and entertainment programming on a single bill and at a lower price than if

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<sup>9</sup> *See, e.g.,* J. Bazinet, J.P. Morgan Industry Analysis, *The Cable Industry: Winning the Battle for Consumer Video, Data, and Voice* at 62-67 (Nov. 2, 2001); C. Golvin, Forrester Research, Inc., *Who Wants To Buy A Bundle?* (Nov. 15, 2004). *See also, e.g.,* *Cablevision Promotional Offer for New Customers Features Digital Video, High-Speed Internet and Voice Services for the Monthly Price of \$29.95 Each for First 12 Months If Taken Together*, PR Newswire (June 21, 2004).

<sup>10</sup> *Cablevision To Offer Internet Phone-Call Bundle*, Wall St. J. at B5 (June 21, 2004) (quoting Patricia Gottesman, Senior Vice President, consumer product management and marketing, Cablevision).

the customer purchased the services individually.<sup>11</sup> And Verizon is spending billions of dollars on its ongoing deployment of fiber-to-the-premises networks, which will enable it to deliver data, voice, and video over a single integrated network in competition with the bundled offerings now available from cable companies.

**B. Telecommunications Bundles Benefit Consumers**

The various communications bundles discussed above and others have succeeded, of course, because consumers find bundles attractive. As discussed in more detail below, consumers most often have the option of purchasing telecommunications services individually, and many consumers continue to do so. Other consumers, however, bypass a la carte offerings, preferring instead to get many or all of their services in a bundle. Bundles appeal to these consumers because they provide cost savings, because they assist in narrowing (without eliminating) choice, and because they provide convenience.

*First*, telecommunications bundles are generally priced at a discount as compared to the sum of the prices of the individual services. As discussed above, bundles can reduce companies' costs of providing goods or services, such as by enabling companies to streamline billing and customer service operations, and companies pass a portion of those savings along to consumers for competitive reasons. *See* Evans Decl. ¶¶ 20-29. As the Commission has noted, telecommunications bundles therefore benefit consumers by providing cost savings directly to bundle purchasers.<sup>12</sup> For example, Verizon customers whose regional toll and long distance

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<sup>11</sup> *See* Verizon News Release, *Combined Bill for Telecommunications and DIRECTV Service Sweetens Deal for New Bundle Customers* (Feb. 8, 2005), at <http://newscenter.verizon.com/proactive/newsroom/release.vtml?id=89219>; *see also* SBC News Release, *SBC, Echostar Announce Strategic Marketing Analysis* (Apr. 17, 2002) at <http://www.sbc.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=7500>.

<sup>12</sup> *See 1998 Biennial Review*, ¶ 15.

calling reaches a certain threshold can save by opting for one of Verizon's unlimited regional or long distance plans; the bundle's flat monthly rate will be lower than the total of their per-minute charges would have been. The Cablevision bundle discussed above provides another example. For approximately the same price that many Cablevision customers pay for digital cable and high speed Internet access, Cablevision customers can get an all-distance bundle that includes digital cable and high speed Internet access – and unlimited local and long distance telephone calls. *See Hassett Decl.* ¶ 36.<sup>13</sup> Unsurprisingly, research indicates that the discount associated with bundles is one of the most important reasons that consumers choose bundles.<sup>14</sup>

Telecommunications bundles have also operated to increase price based competition both for packages and for the services that make up those packages. For example, wireless service packages, which include unlimited long distance calling, have created downward pressure on the price for *wireline* long distance calls. *See Hassett Decl.* ¶¶ 81, 84 & Ex. 2. As one article explained, “[t]hanks to unlimited night and weekend minutes . . . cellphone plans are the method of choice when it comes to long-distance calling from home.”<sup>15</sup> As wireless providers have increased the number of off-peak minutes they make available on their plan, many consumers have come to view wireless long distance service as effectively “free.” *See id.* ¶ 86. In fact, one market research firm concluded that 60 percent of long-distance calls in households with cellular

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<sup>13</sup> *See also Cablevision Promotional Offer for New Customers Features Digital Video, High-Speed Internet and Voice Services for the Monthly Price of \$29.95 Each for First 12 Months If Taken Together*, PR Newswire (June 21, 2004).

<sup>14</sup> *See, e.g.,* C. Golvin, Forrester Research, Inc., *Who Wants To Buy A Bundle?* at 2 (Nov. 15, 2004); J.D. Power and Associates, News Release, *More Than One-Half of Households Now Bundle Their Long-Distance Service with Another Telecommunications Product* (July 1, 2004).

<sup>15</sup> *Hassett Decl.* ¶ 77 (quoting W. Mossberg, *The Mossberg Solution: Turning Your Home Phone into a Cellphone – Call-Forwarding Devices Let You Use Cellular Service on a Traditional Phone*, Wall St. J. at D6 (Dec. 3, 2003)).

phones are now made on wireless phones. *See id.* ¶ 79. Wireline companies have responded to the competitive pressure exerted by these wireless packages by offering their own unlimited calling bundles and by reducing long-distance rates. *See id.* ¶ 81.

*Second*, bundles in the telecommunications industry provide consumers a convenience benefit by narrowing, without eliminating, choice. By combining features and products into pre-assembled packages, bundles enable a customer to reduce the number of decisions needed to make a purchase. For example, telephone companies offer local packages that combine unlimited local calling with calling services for a flat monthly fee; regional packages that offer unlimited local and regional calling plus calling features; and all-distance plans, which combine unlimited local calls, regional calls, and long distance calls, plus calling features. Other telecommunications providers, such as cable companies, offer similar packages. *See generally* Hassett Decl., Ex. 2. In addition, many telecommunications packages are mixed bundles – the components of the bundle are offered individually. For example, Verizon offers all of the products included in its voice bundles, as well as additional voice products, individually.

These types of bundles assist consumers in narrowing their decisions, while ultimately maximizing consumer choice. If desired, a consumer can review all of Verizon's voice offerings, as well as all of the offerings of competitors in the area, and custom-build her own telecommunications package, perhaps obtaining different services from different companies. On the other hand, she may not want to sort through all of the possible combinations, and may therefore prefer to shop only for bundles in order to help narrow her choice. Based on her calling patterns, she may determine that a particular type of bundle – for example, a bundle including local and regional calling, but not long distance – is best suited for her needs. She can

then narrow her search by considering and comparing only the regional packages offered by various providers.

*Third*, bundles continue to provide customers added convenience after the initial sale. By receiving multiple communications services from a single company or affiliated companies, customers can reduce the number of bills to pay for communications services each month and can streamline customer service. For example, a Verizon customer who purchases a Verizon Freedom package bundled with Verizon DSL and DirecTV receives – and pays – only a single bill for local calling, long distance, broadband access, and television programming. If that customer obtains her wireless service from Verizon Wireless, she can have her wireless charges included on that bill as well. Convenience, therefore, provides one of the key consumer benefits that have driven the success of bundles.<sup>16</sup>

**C. Telecommunications Bundles Promote Competition**

Bundling in the telecommunications industry promotes the very type of competition that benefits society and that the Commission encourages. For example, bundling has fostered price-based competition throughout the telecommunications field. Bundles enable carriers to reduce their own costs, such as through simplified billing procedures and marketing efforts. For example, packages that bundle together unlimited toll calling minutes eliminate the need to measure and rate individual calls and simplify individual bills; packages that bundle together a variety of communications products eliminate the need to produce separate bills for local calling,

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<sup>16</sup> See, e.g., J.D. Power and Associates, News Release, *More Than One-Half of Households Now Bundle Their Long-Distance Service with Another Telecommunications Product* (July 1, 2004) (“consumers are rushing to bundle, not only for the competitive pricing, but also and most often to simplify the billing process”); T. Barnich *et al.*, *Cable’s Triple Crown Bundles* (Aug. 1, 2003) (the marketing benefit of bundling is the “simplicity of the product in the consumer’s eyes”).

long distance calling, broadband access, and video programming. Carriers then pass these savings on to consumers, through attractive bundle prices – which in turn put competitive pressure on other carriers to lower their own costs and offer attractive prices. This all motivates carriers to find the most economically efficient ways to offer their services, resulting in socially beneficial competition throughout the industry. *See generally* Evans Decl. ¶¶ 66-74.

Bundling also encourages competition on the basis of providing the most efficient combinations of bundles and individual products to satisfy consumers. The prevalence of bundling throughout the telecommunications industry means that consumers have a variety of choices, even among bundles. Companies therefore compete on the basis of compiling sensible bundles that enhance consumer convenience without including excessive unwanted features – resulting in the efficient deployment of resources and development of services. For example, to the extent that one provider's bundles are riddled with complicated options, such that the bundles do not provide the convenience that consumers seek, consumers will turn to another bundle provider who can offer the service and convenience that consumers demand. To the extent that a particular bundle is successful in the marketplace, providers will focus their efforts on expanding their offerings to ensure that they can provide the complete bundle in order to compete. On the other hand, if one provider offers two services only as a bundle despite the market's demand for the services individually, other providers will focus their efforts on finding efficient ways to disaggregate the bundle to offer the products independently at a competitive price.

Moreover, there is no indication that bundling in the telecommunications industry produces anticompetitive effects or stands as an obstacle to the introduction and acceptance of new technologies. *First*, the particular product pairing that initially gave rise to BellSouth's petition for declaratory ruling and the Commission's order – incumbent LECs' provision of local

exchange service and broadband access in a bundle – does not present anticompetitive concerns or restrain the expansion of Voice over IP (“VoIP”). *See Notice* ¶ 37. As an initial matter, broadband access is not tied to voice service from incumbent LECs in today’s market. Consumers who wish to purchase broadband access, but no voice service, can do so from a number of providers, and can now buy voice service from those same providers as well. For example, cable companies offer broadband access through cable modem service. In fact, as discussed in more detail below, the majority of broadband subscribers obtain their broadband service from cable companies. *See Hassett Decl.* ¶ 58; *Hassett Reply Decl.* ¶ 38.<sup>17</sup> Cable companies also now broadly offer voice service to their customers as well, and are rapidly expanding its availability still further. Other companies, such as America Online (“AOL”), are rolling out DSL broadband access on a standalone basis.<sup>18</sup> AOL likewise has introduced its own competing voice service.<sup>19</sup> There are also numerous other platforms and technologies already competing in, or poised to enter, the broadband mass market – including power lines, fixed wireless, 3G mobile wireless, and satellite – that provide or will provide broadband access untied to local phone service. *See Hassett Reply Decl.* ¶¶ 39-40.<sup>20</sup> And many of these providers, particularly wireless carriers, obviously offer competing voice service as well.

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<sup>17</sup> Reply Declaration of Michael K. Hassett, Tom Maguire, Michael O’Connor, and Vincent J. Woodbury, submitted in *Verizon Communications and MCI, Inc. Applications for Approval of Transfer of Control*, WC Docket 05-75 (May 24, 2005) (“Hassett Reply Decl.”).

<sup>18</sup> *See, e.g.*, David A. Vise, “AOL Aims to Get Up to Speed with DSL,” *Washington Post* (June 2, 2005) (discussing AOL’s partnership with Covad to offer standalone DSL).

<sup>19</sup> *See, e.g.*, America Online Press Release, *America Online Introduces AOL Internet Phone Service* (Apr. 7, 2005), at [http://media.timewarner.com/media/newmedia/cb\\_press\\_view.cfm?release\\_num=55254366](http://media.timewarner.com/media/newmedia/cb_press_view.cfm?release_num=55254366).

<sup>20</sup> The Commission has recognized that, in addition to cable and DSL, “[b]roadband Internet access services are rapidly being developed or provided over technologies other than wireline and cable, such as wireless and powerline.” *Communications Assistance for Law*

In addition, incumbent LECs are increasingly offering DSL broadband services on a standalone basis. For example, Verizon's existing DSL customers already can cancel voice service from Verizon and obtain voice service from an independent VoIP provider such as Vonage or a wireless company, and retain their DSL line provided by Verizon. *See* Hassett Reply Decl. ¶ 65; Verizon Tariff FCC No. 1, § 16.8(D)4. A Verizon DSL customer can also port his telephone number to another facilities-based provider such as a cable company or wireless carrier, while keeping his Verizon DSL line. *See id.* This is just the first step in Verizon's roll-out of an expanded standalone DSL offering, which Verizon anticipates introducing in large parts of its service area in the coming month. *See id.*

Moreover, even to the extent that some customers may not yet be able to purchase standalone DSL service from their incumbent LEC, the fact that an incumbent LEC may provide DSL service only in a package with basic phone service is not anticompetitive. As Dr. Evans explains, tying only presents potential anticompetitive concerns when a firm with substantial market power in one market uses tying in an attempt to gain market power in a second market

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*Enforcement Act and Broadband Access and Services*, Notice of Proposed Rulemaking and Declaratory Ruling, 19 FCC Rcd 15676, ¶ 37 n.82 (2004); *see also, e.g.*, Kathleen Q. Abernathy, Commissioner, FCC, *Promoting the Broadband Future*, Keynote Address at Supercomm Conference at 2-3 (June 22, 2004) (“As a result of the consumer benefits and efficiencies, wireline telecommunications carriers, cable operators, wireless carriers, satellite operators, electric utilities, and others are racing to build out broadband networks”), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-248688A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-248688A1.pdf); *Inquiry Concerning the Deployment of Advanced Telecommunications Capability*, Third Report, 17 FCC Rcd 2844, ¶¶ 79-88 (2002); *Triennial Review Order* ¶ 263 (“[T]he Commission also has acknowledged the important broadband potential of other platforms and technologies, such as third generation wireless, satellite, and power lines.”) (citing *Third Section 706 Report 2002*, 17 FCC Rcd 2844, ¶¶ 79-88 (2002)); R. Mark, *Broadband over Power Lines: FCC Plugs In*, Internetnews.com (Apr. 23, 2003), <http://dc.internet.com/news/article.php/2195621> (Chairman Powell: “[t]he development of multiple broadband-capable platforms – be it power lines, Wi-Fi, satellite, laser or licensed wireless – will transform the competitive broadband landscape.”).

where the firm does not have market power by requiring customers to buy the second product.

See Evans Decl. ¶¶ 15, 45-53.

The tying of incumbents' basic phone service to DSL broadband access, however, turns these concerns on their head; incumbent LECs do *not* have market power in providing broadband access. More than 90% of U.S. households can now obtain a broadband connection from a provider other than their incumbent local telephone company, and most households who subscribe to broadband service get that service from their cable company, rather than their phone company. See Hassett Decl. ¶ 58. A recent report by Morgan Stanley estimates that nationally, DSL service provided by a local incumbent LEC captures only 38% of the residential broadband market; cable modem service makes up most of the rest.<sup>21</sup>

Tying incumbent LECs' local phone service to their DSL broadband service therefore does not pose potential anticompetitive concerns because incumbent LECs have a minority share of the broadband market. As Dr. Evans explains, the products are tied in the wrong direction to produce anticompetitive results: customers who purchase the product in which incumbents previously may have had market power (the market for landline local phone service) are not required to purchase the product in which incumbents unquestionably do not have market power (DSL). See Evans Decl. ¶¶ 87-91. In fact, most of Verizon's telephone customers do *not* purchase Verizon DSL.<sup>22</sup> And although some incumbents' broadband customers currently may be required to purchase local telephone service as well, customers can avoid that requirement by buying their broadband access from one of the other competitive broadband providers.

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<sup>21</sup> See R. Bilotti *et al.*, Morgan Stanley Equity Research, *Broadband Update: Competition Varies Dramatically Across Regions* at 5 & Ex. 5 (April 15, 2005) ("*Bilotti et al.*").

<sup>22</sup> See *Bilotti et al.*, at 9-10 & Ex. 14 (estimating that Verizon has 6.8% DSL penetration of its access lines).

Customers who prefer to rely entirely on VoIP or wireless for their phone service therefore need not purchase redundant phone service in order to get broadband access. It is in incumbents' competitive interest to *untie* phone service from DSL broadband service as soon as the LEC can efficiently offer the standalone product in order to compete with other standalone broadband providers. It is this very competitive concern that has motivated Verizon's roll out of standalone DSL.

*Second*, bundling in the telecommunications industry has *aided* – not hampered – intermodal competition generally. Carriers have successfully promoted competition in new technologies through bundling. For example, wireless carriers' marketing of unlimited calling bundles is largely credited for the rapid growth in wireless telephony, which has been a strong source of intermodal competition in the voice market. *See* Hassett Decl. ¶¶ 77, 83-84; *see supra* at 9-10. And, as the Commission has recognized, bundling new services “encourage[s] [consumers] to subscribe to new, advanced, or specialized services” that they otherwise may not have tried, thus furthering the Commission's goal of promoting the use of new technologies.<sup>23</sup> For example, cable companies have used bundling as a way to break into the telephony market by encouraging consumers to try cable voice services, further increasing intermodal competition for voice. *See* Hassett Decl. ¶¶ 30-33. Bundles are spurring intermodal competition in other areas of the communications industry as well. For example, local exchange carriers such as Verizon are expanding their fiber networks to provide new and improved services to consumers. Some of these carriers, including Verizon, have announced that they intend to use these fiber networks to provide video programming and entertainment services – thus increasing intermodal competition in the video and entertainment market as well.

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<sup>23</sup> 1998 Biennial Review, ¶ 10.

*Third*, the fact that some carriers may be unable to offer all of the products currently marketed in bundles by others does not demonstrate an anticompetitive effect. These carriers are not shut out of competition by the existence of bundles. To the contrary, such carriers can compete against others' bundles in a number of ways, all of which can promote economic efficiency and consumer benefit. For example, some carriers may decide not to compete on a bundled basis, but rather by offering individual products tailored to a niche market. Other carriers may focus their efforts and resources on network deployment, so that they may efficiently offer the additional services needed to compete in the bundled market. Again, telecommunications carriers' expansion of their fiber networks provides an example of just such an economically efficient effort.

Still other carriers may partner with other communications companies in order to offer a wider range of services. For example, telephone companies and digital television providers have joined to offer broader bundles than either could offer independently. For example, Verizon has partnered with DirecTV to offer a bundle combining Verizon's voice and DSL broadband service along with DirecTV's videoprogramming on a single bill, at a discount from the sum of the component products.<sup>24</sup> Likewise, cable companies are partnering with wireless providers to offer yet another service to their existing triple play offering and to compete directly with the packages being assembled by telephone companies.<sup>25</sup>

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<sup>24</sup> Verizon News Release, *Combined Bill for Telecommunications and DIRECTV Service Sweetens Deal for New Bundle Customers* (Feb. 8, 2005), at <http://newscenter.verizon.com/proactive/newsroom/release.vtml?id=89219>; see also SBC News Release, *SBC, Echostar Announce Strategic Marketing Analysis* (Apr. 17, 2002) at <http://www.sbc.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=7500>.

<sup>25</sup> See, e.g., M. Dano, *RCE Wireless News, Time Warner To Test Wireless Bundle Via Sprint Network* (Dec. 30, 2004), at [http://lynxuscomm.com/spring\\_news.htm](http://lynxuscomm.com/spring_news.htm); K. Fitchard,

*Finally*, all of the competitive factors discussed throughout Verizon's comments have been, and will continue to be, effective in incenting providers to disaggregate bundles when it is economically efficient and beneficial to consumers to do so. As a threshold matter, as explained above and in Dr. Evans' declaration, requiring that all bundle components be offered individually is not necessarily the most beneficial to consumers or the most economically efficient outcome. To refer again to our earlier example, it would not be beneficial to require newspaper publishers to disaggregate their bundles; in that case, it makes economic sense for the various information products to be offered only on a tied basis in a single newspaper. Competitive forces, rather than regulatory interventions, are best suited to identify those situations where untying is and is not warranted.

Furthermore, competitive forces have, in fact, worked to disaggregate bundles in telecommunications. Market forces have already led some telecommunications providers to offer previously bundled products individually. For example, Verizon offers broadband access on a standalone basis to existing broadband customers. Verizon is also expanding its standalone DSL product to more consumers, as discussed above. The video programming services offered in Verizon's bundles – DirecTV's digital television service – is offered individually by DirecTV. Thus, although consumers can purchase combinations of these products in various Verizon bundles, they can also purchase most, if not all, of these products individually. In some cases, a particular carrier may not unbundle all of its products, but competitive forces have nevertheless ensured that the products are available individually – by incenting that carrier's competitors to offer them instead. LECs' bundled voice offerings and broadband services, discussed above,

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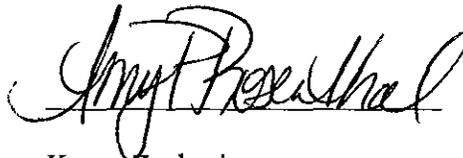
Telephony Online, *Got a Cable Network? (The Wireless Industry Has a Deal For You)* (Nov. 29, 2004), at [http://bg.telephonyonline.com/ar/telecom\\_cable\\_network\\_wireless/](http://bg.telephonyonline.com/ar/telecom_cable_network_wireless/).

illustrate the point. Although many incumbent LECs provide broadband access only in a tying arrangement with local calling service, their competitors, such as cable companies, are often unbundling that tie and providing broadband access without requiring voice service. Those competitors' standalone broadband products, in turn, are putting competitive pressure on the incumbents to unbundle their broadband products as well. Incumbents' experience with bundled DSL demonstrates that competition supplies sufficient incentives for providers to disaggregate bundles when disaggregation is warranted by economic efficiencies and consumer demand.

### CONCLUSION

For the foregoing reasons, the Commission should not take regulatory action in response to bundling in the telecommunications market, but instead should allow market forces to continue to drive the products and combination of products that are offered by providers.

Respectfully submitted,



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June 13, 2005

THE VERIZON TELEPHONE COMPANIES

The Verizon telephone companies are the local exchange carriers and interexchange carriers affiliated with Verizon Communications Inc. These are:

BellAtlantic Communications, Inc. d/b/a/ Verizon Long Distance  
Contel of the South, Inc. d/b/a Verizon Mid-States  
GTE Southwest Incorporated d/b/a Verizon Southwest  
The Micronesian Telecommunications Corporation  
Verizon California Inc.  
Verizon Delaware Inc.  
Verizon Florida Inc.  
Verizon Maryland Inc.  
Verizon New England Inc.  
Verizon New Jersey Inc.  
Verizon New York Inc.  
Verizon North Inc.  
Verizon Northwest Inc.  
Verizon Pennsylvania Inc.  
Verizon South Inc.  
Verizon Virginia Inc.  
Verizon Washington, DC Inc.  
Verizon West Coast Inc.  
Verizon West Virginia Inc.

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

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In the Matter of )  
 )  
BellSouth Telecommunications, Inc. )  
Request for Declaratory Ruling that State ) WC Docket No. 03-251  
Commissions May Not Regulate )  
Broadband Internet Access Services by )  
Requiring BellSouth to Provide Wholesale )  
or Retail Broadband Services to )  
Competitive LEC UNE Voice Customers; )  
Notice of Inquiry )  
\_\_\_\_\_

**DECLARATION OF DAVID S. EVANS**

I, David S. Evans, hereby declare and state as follows:

**I. Qualifications**

1. I am Vice Chairman of LECG Europe and Managing Director of Global Competition Policy for LECG LLC, a global economic and financial consulting firm. I am also Chairman of eSapience LLC, a media and research firm that publishes *Competition Policy International* (CPI). CPI is a refereed journal that publishes articles related to antitrust economics, law and policy; I chair its editorial board. Finally, I am Visiting Professor, Faculty of Laws, University College London where I teach competition policy law and economics. I was previously a Senior Vice President at NERA Economic Consulting; I was also a member of the Board of Directors and Management Committee. From 1985-1995 I was Adjunct Professor of Law at Fordham University School of Law where I taught antitrust law and economics and

law and economics. I was an Associate Professor Economics at Fordham University from 1983-1989.

2. I have published extensively in the areas of industrial organization. I have authored or co-authored more than 70 articles published in economic journals such as *The American Economic Review*, *The Journal of Political Economy*, and *Rand Journal of Economics*, and law reviews such as *Yale Journal of Regulation* and *The University of Chicago Law Review*. I have also co-authored four books and a variety of monographs.

3. In recent years I have written extensively on the subject of bundling and tying. These writings include two strands of work. The first concerns the theoretical and empirical study of why firms engage in bundling. This work, co-authored with Michael Salinger, has appeared in *Yale Journal on Regulation*, a forthcoming chapter in *Antitrust Analysis and Policy* (MIT Press, ed. Jay Pil Choi), and several working papers. The second concerns the antitrust analysis of tying. This work, co-authored with Jorge Padilla and others, has appeared in *The Antitrust Bulletin*, *The University of Chicago Law Review*, and elsewhere.

4. I have researched and consulted on various telecommunications issues over the years. I consulted for the U.S. Department of Justice in *U.S. v. AT&T*. I am the co-author of *Break Up Bell: Essays in Industrial Organization and Regulation* as well as several oft-cited articles on the cost characteristics of the telecommunications industry.

5. A copy of my curriculum vitae is attached as Exhibit A.

## **II. Summary**

6. I have been asked by Verizon to summarize the economic literature on the bundling and tying of products and to comment on the likely competitive effects of common

bundling arrangements in the telecommunications industry. My purpose is to assist the FCC in its notice of inquiry into the tying or bundling of telecommunications services. The FCC's notice concerns the examination of "the competitive consequences when providers bundle their legacy services with new services, or 'tie' such services together such that the services are not available independent from one another to end users."<sup>1</sup>

7. Most products are bundles of features that could be and sometimes are provided separately. Consider the morning in the life of a typical consumer. Her alarm clock goes off—this might be a radio alarm clock or the one on her mobile phone. From her doorstep she gets the *Washington Post*, which includes national and international news, sports, perhaps local Virginia news, and arts. For breakfast she has a bowl of Apple Cinnamon Cherrios though she has to add the milk herself. She turns her television on to watch CNN; she skips past House and Garden TV which she must take as part of her cable package but never watches. Then she steps into her SUV and turns on the radio, which came with it, and, if she does not know where she is going, perhaps even uses the built-in navigation system. Bundling does not cease when she gets to her office. The building probably bundles security services, cleaning, and other amenities. She boots up her computer, which is a bundle of an operating system, a computer chip, and perhaps a DVD player. As a surgeon her patients get a bundle of services from the hospital including nursing, anesthesiologists, and meals.

8. Consumers often benefit from these bundles because they save consumers the trouble of shopping for and combining features that they want to use together. Businesses can

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<sup>1</sup> Memorandum Opinion and Order and Notice of Inquiry *In the Matter of BellSouth Telecommunications, Inc. Request for Declaratory Ruling that State Commissions May Not Regulate Broadband Internet Access Services by Requiring BellSouth to Provide Wholesale or Retail Broadband Services to Competitive LEC UNE Voice Customers*, Federal Communications Commission, WC Docket No. 03-251, March 25, 2005, ¶ 37.

realize savings from combining products and will pass some or all of these savings (depending on the degree of competition) on to consumers in the form of lower prices.

9. It is possible though that certain kinds of bundling could harm competition and consumers. Oftentimes businesses provide consumers with the option of buying packages of products or buying these products separately. Such “mixed bundling” is not seen as problematic for competition by economists or in the antitrust laws.<sup>2</sup> Sometimes businesses do not provide a product—or a component of a product—separately. One product is “tied” to another. In these cases, consumers have to take one product (the tied product) to get another product (the tying product). The antitrust case law has expressed concern about such ties when a firm has market power in the tying product. Economists have shown that *under some conditions* it is possible that such ties harm competition and consumers although *under other conditions* they do not. When tying is a competitive problem the solution is to require the firm to give consumers the option of getting the tying product without the tied product.

10. Telecommunications companies commonly offer mixed bundles. They offer consumers packages of services but also offer the individual services separately.<sup>3</sup> These do not pose competitive concerns.<sup>4</sup> In some cases telecommunications companies engage in tying. For example, the notice of inquiry specifically raises the fact that many incumbent phone companies require consumers to take local telephone service (the tied product) to get DSL broadband access

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<sup>2</sup> When consumers have a choice in name only—when the prices for the different bundles are such that consumers are effectively coerced into taking the bundle rather than the separate products—problems may arise. The issues are similar to those for “tied” products that are not available separately, which I discuss in Section III.

<sup>3</sup> There are some cases in which the individual services are not offered separately. For example, some firms do not offer local service without long distance service.

<sup>4</sup> The prices of the bundles do not appear to be coercive and many consumers in fact decline the package offerings.

(the tying product). In this case, as the FCC has found, incumbents have no plausible market power in the tying product. Therefore, this combination is not of concern to economists, nor is it analogous to the ties that the antitrust case law has concerned itself with.

11. The remainder of this declaration provides additional information supporting these conclusions. Section III documents the pervasiveness of bundling in the economy and explains how bundling tends to provide benefits to consumers and efficiencies to producers. Section IV considers the circumstances in which bundling can be used to harm consumers and the competitive process. Section V then reviews the bundling of telecommunication services generally in light of the preceding review of bundling.

### **III. The Economics of Bundling**

12. Most products are bundles of components that could be provided separately and sometimes are. In all these cases firms are making two related decisions. The first concerns how they design their products. What should be included and how should the parts interrelate? The second concerns which products to offer. Should the firm offer only one product or should it offer several with different combinations of features? The answers to these questions depend on the demand for different product configurations and the cost of providing these to consumers.

#### **A. Product Design and Offers**

13. To illustrate the decisions that firms make about how to design their products and what products to offer to consumers, consider a simple case in which there are two components

**A** and **B**. Each is valuable to consumers in its own right.<sup>5</sup> The possible products are listed in Table 1. Three cases are particularly important.

1. *Components-selling* occurs when the firm offers **A** and **B** separately (cars and bicycle racks).
2. *Pure bundling* is when the firm only offers **A** and **B** together as the bundled product **AB** (men's laced shoes).
3. *Mixed bundling* refers to when the firm offers the bundle **AB** and either or both of its components **A** and **B** (The Sunday *New York Times* and the *New York Times Book Review*).

14. With two components, there are three possible "products" and seven possible product configurations as shown in Table 1. The number of products and configurations increases exponentially with the number of components. Thus with three components there are seven possible products and 127 possible product configurations.

15. It is useful to introduce a legal concept of bundling called a "tie" at this point—I will return to this in discussing the possible anticompetitive uses of bundling. A product configuration is said to involve a "tie" when it is possible to get one component only as part of a bundle. That is the case with product configurations 4-6 in Table 1. Pure bundling necessarily involves a tie. Mixed bundling involves a tie when it is not possible to get one of the components. Generally, antitrust policy concerns itself only in those situations when buyers can only get a tying component for which the firm has market power by taking another component (the tied component).

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<sup>5</sup> David S. Evans and Michael Salinger. "Why Do Firms Bundle And Tie? Evidence From Competitive Markets And Implications For Tying Law," *Yale Journal on Regulation*, Vol. 22, 2005, pp. 37-89.

Table 1: Products that can be sold based on two components

	<b>A</b>	<b>B</b>	<b>AB</b>
1. Components selling	X	X	
2. Components selling	X		
3. Components selling		X	
4. Pure bundling/Tie			X
5. Tied Mixed bundling	X		X
6. Tied Mixed bundling		X	X
7. Full Mixed bundling	X	X	X

16. Firms make different decisions on product designs and offers within the same industries. Some may offer only components while others may offer only bundles and still others may engage in mixed bundling. Consider the most popular mid-sized automobiles sold in the United States: Ford Taurus, Honda Accord, and Toyota Camry. The Accord comes in six models that have between zero and two options. The Camry has three models with between nine and 12 options. And the Taurus has four models with between three and 13 options. Across car segments there is even greater variation. For example, Porsche is famous for having an enormous number of options that allow purchasers to customize their cars. All of these automobile makers include tires on their cars. They purchase these from tire manufacturers and not one of these auto makers sells tires separately.<sup>6</sup>

17. The framework above can also be used to think about another form of bundling—selling multiple units of a product or other volume-based arrangement. The components are the individual units of the product. A pure bundle would be a fixed number of units—say a package

<sup>6</sup> David S. Evans and Michael Salinger. “Why Do Firms Bundle And Tie? Evidence From Competitive Markets And Implications For Tying Law,” *Yale Journal on Regulation*, Vol. 22, 2005, pp.37-89.

containing 100 units. And mixed bundling would entail different package sizes: say 25, 100, and 500 units.

18. Economists have identified a number of factors that influence the business decisions on which products to offer. I consider these next. In addition, economists have identified a number of ways in which bundling can be used profitably to increase consumer demand.

## **B. Reducing Producer and Consumer Costs**

19. Bundling decisions affect costs for both producers and consumers.<sup>7</sup> In both cases it is useful to divide these into costs that vary with each unit (marginal costs) and costs that are lumpy over a range of units (fixed costs).

### **1. Producers**

20. For producers, multiple offerings can raise the fixed costs of production and sales in several ways. There may be diseconomies of scope of producing multiple separate products. For example, studies of automobile manufacturing have found that making many options available increases what are called “complexity costs.” Maintaining and managing different SKUs (Stock Keeping Units) also costs money. Separate products require separate packaging

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<sup>7</sup> Jean Tirole, Patrick Rey, and Paul Seabright, “The Activities of a Monopoly Firm in Adjacent Competitive Markets: Economic Consequences and Implications for Competition Policy,” IDEI Working Paper, No. 132, 2001, revised 2002; Paul Seabright and Xavier Vives, “Tying and Bundling: From Economics to Competition Policy,” Edited Transcript of a CNE Market Insights Event, September 19, 2002. Available at [http://www.cne.org/pub\\_pdf/2002\\_09\\_19\\_tying\\_bundling.htm](http://www.cne.org/pub_pdf/2002_09_19_tying_bundling.htm); David S. Evans and Michael A. Salinger, “The Role of Cost in Determining When Firms Offer Bundles and Ties,” 2004. Available at <http://ssrn.com/abstract=555818>.

and shelf space, each of which raises costs.<sup>8</sup> Marginal costs also vary for some products. It is cheaper to produce one pill that contains headache and pain reliever medicine than to produce two separate products.

21. It is also possible that there are diseconomies in both fixed and marginal costs of offering components together. Combining features may increase costs directly by making these products more complex and much harder to make. And complexity may have indirect effects as well such as raising the likelihood of products breaking down, raising support costs for customers, and increasing the costs of repair. The marriage of computers and automobiles is an example. Owners of Dodge 2001 minivans have, according to the *New York Times*, “posted anguished cries ... about electronic gremlins that stop windows from rolling all the way up, that unexpectedly dim the interior lights, that drain batteries or that make engines sputter.”<sup>9</sup>

## 2. Consumers

22. Consumers may realize savings when getting things together, assuming they value the products at all. If you like to read about sports and arts every day it is cheaper to get a newspaper with both. And if you have a cold and a headache it is more convenient to get a single package of pills. Letting the producer make choices for you saves you time as well. When we go to the hospital for surgery most of us would prefer to leave most of the choices of the components to the experts rather than make them ourselves. Although downloadable music lets us pick individual songs for our collections, many might prefer the bundles the artists and publishers put together themselves. Choice is costly because it takes time and effort to make

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<sup>8</sup> David S. Evans and Michael A. Salinger, “The Role of Cost in Determining When Firms Offer Bundles and Ties,” <http://ssrn.com/abstract=555818>, 2004.

<sup>9</sup> Tim Moran, “What’s Bugging the High-Tech Car?,” *The New York Times*, Sunday, February 6, 2005, p. 14.

informed decisions, ones that others may be able to do more efficiently. More generally, bundling reduces transaction and search costs for consumers.

23. In some cases, bundling may also have disadvantages. Some consumers may prefer to mix and match components—a common strategy in building home entertainment systems and increasingly popular for music collections. Although automobile manufacturers have reduced variety over time, many car buyers like having some choice and no doubt some resent option packages that require them to take a moon roof to get a more powerful engine.<sup>10</sup>

### **3. Implications for Product Design**

24. These costs and benefits for consumers and firms help explain the products that businesses actually do offer among the many they could offer. Firms have to weigh the demand for a particular product offering against the costs of making it available as a stand-alone product or as part of another product. Many products are not offered at all because there is not enough demand to warrant businesses to incur the costs of producing and distributing them. Some men would no doubt prefer to get their shoes without shoelaces because they have a favorite shoelace they like to use. But the number is probably so few that it would not pay to offer this option at shoe stores. Other products are offered only separately because few people want them as a system. Although this is changing, many families buy their own ingredients for dinner rather than prepackaged meals. And in other cases there is enough demand for the components and the bundle for producers to offer it both ways.

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<sup>10</sup> David S. Evans and Michael Salinger. "Why Do Firms Bundle And Tie? Evidence From Competitive Markets And Implications For Tying Law," *Yale Journal on Regulation*, Vol. 22, 2005, pp.37-89.

25. In some cases, it is not profitable for producers to offer bundles versus the individual components. Consider a simple example. 100 consumers would pay \$10 for **A**; 50 would pay \$5 for **B** and 10 would pay \$20 for **AB**. It costs \$1 to produce each unit of **A** and **B** and \$2 to produce each unit of **AB**. Fixed costs are \$200 for each of these three products. In this case the unit cost, for meeting all demand, of **A** is \$3, the unit cost of **B** is \$5, and the unit cost of **AB** is \$22. Each component could be provided separately for a profit—since the consumer willingness to pay for each unit is greater than the cost of producing each unit (\$10 vs. \$1 for **A** and \$5 vs. \$2 for **B**). However, the bundle cannot be provided profitably because the unit costs exceed what people will pay (it costs \$22 to make **AB** and consumers will only pay \$20). The problem here is lack of demand. Not enough people want the bundle to make it profitable to provide.

26. Firms sometimes offer pure bundles because, even though some consumers do not want portions of the bundle, it is cheaper to sell the components together. To see the intuition consider the extreme case in which each of several types of consumers want one component but none of the others. If the fixed costs of providing each of the components is high enough, it pays to combine these together. It is cheaper to give consumers a component they do not want than to provide the component they do want separately. The manufacturer saves money and the consumer often gets a lower price than she would otherwise.

27. A simple example illustrates this. There are two consumers. Person 1 is willing to pay \$5 for **A** and nothing for **B**; person 2 is willing to pay \$5 for **B** but nothing for **A**. It costs the manufacturer \$2 for **A** and **B** separately. The fixed cost of offering a product at all is \$1. The manufacturer could sell a unit of **A** and **B** separately for \$5 each, collect \$10 in revenue, incur \$4 in manufacturing cost and \$2 in product-offering cost, and make a profit of \$4. Or it could sell a

bundle **AB** to both consumers for \$5 each, collect \$10 in revenue, incur \$4 in manufacturing cost and \$1 in product-offering cost, and make a profit of \$5.

28. Bundling is the best strategy in this example. In this case the manufacturer pockets the difference but some of the cost savings would get passed on to the consumer in a competitive market. Moreover, if the fixed cost of offering a product was \$5 it would not be profitable to offer **A** or **B** (the additional \$4 in fixed cost wipes out the profit of \$4)—but it would be profitable to offer **AB** (the manufacturer earns \$1 of profit). We will see later that being able to segment consumers is one of the explanations for this phenomenon. But the other one—and the one emphasized here—is that the manufacturer can avoid the multiple fixed costs of offering separate products. Electrical plug adapters for outlets used in other countries provide a useful illustration. At its retail stores, RadioShack generally sells a package of four plug adapters for outlets that, roughly, are used in Europe, the United Kingdom, New Zealand/Australia, and North America.<sup>11</sup> A U.S. traveler needing plug adapters for an overseas trip would typically buy this package. RadioShack also sells separately an adapter for North America that a visitor from Europe would buy if traveling to the United States. But there is insufficient consumer demand to cover the costs of selling the other adapters separately, or in other bundled configurations.

29. It is easy to see from these considerations why firms offer only a fraction of the products—defined by the combination of components—they could. The examples above involve just two components for which there are three possible products. With three components there

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<sup>11</sup> See David S. Evans and Michael Salinger, “Why Do Firms Bundle And Tie? Evidence From Competitive Markets And Implications For Tying Law,” *Yale Journal on Regulation*, Vol. 22, 2005, pp. 37-89. The “North American” adapter in the package can be used to convert a European plug to fit a North American outlet.

would be seven possible products (ABC, AB, AC, BC, A, B, C); with ten there would be 1023. Even minimal fixed costs of offering these configurations to manufacturers or consumers would encourage producers to reduce the number of offerings to those for which there is significant demand. If you think about the products you buy, while you may have a great deal of choice you have infinitely less than you could if firms offered all possible combination of components that some customers might like.

### **C. Exploiting Demand**

30. Firms bundle components because it enables them to sell more and usually make more profits. That can be true for three demand-related reasons.<sup>12</sup>

#### **1. Complementary Components**

31. The “give away the razor to sell the blades” strategy is famous in business and economics. This approach is profitable because the razor and the blades are complements—a decrease in the price of one increases the demand for the other. In some cases decreasing the price of one component to nothing makes sense. The firm loses money on that component. But it stimulates the demand for the other component on which the firm does make money. With products that are strong complements the profits from the positively priced component make up for losses on the zero-priced component.

32. So far this does not say anything about bundling. But it often saves distribution and packaging costs to sell two goods together. If the firm is giving one away for free anyway it

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<sup>12</sup> William James Adams and Janet L. Yellen, “Commodity Bundling and the Burden of Monopoly,” *Quarterly Journal of Economics*, Vol. 90, 1976, pp. 475-498; Michael S. Salinger, “A Graphical Analysis of Bundling,” *Journal of Business*, Vol. 68, 1995, pp. 85-98; Richard Schmalensee, “Pricing of Product Bundles,” *Journal of Business*, Vol. 57, 1984, pp. S211-S230.

might as well avail itself of these cost savings. Not surprisingly, razors and blades are usually included in the same package. Consumers can benefit from the convenience of getting the bundle and from the lower cost.

To see how complementary demand leads to bundling, consider a firm that produces **A** and **B**. Each costs \$2 to produce and there are no fixed costs of product offering. Assume the firm faces these demand schedules:

$$Q_A = 2a_A - b_{AP} - dp_B$$

$$Q_B = 2a_B - b_{BP} - dp_A$$

If  $a_A=7$ ,  $a_B=6$ ,  $b_A=1$ ,  $b_B=2$ , and  $d=1$ , the profit maximizing prices would be \$9 for **A** and \$0 for **B**. The firm incurs losses on sales of **B**.

Assuming it costs something to distribute these products, the firm will generally increase profits by including the “free product” with the “not-free” product.

## 2. Aggregating Across Consumers

33. Firms may also find that it pays to bundle even if demands are not complementary. We already saw an example of this above. Bundling persuaded two consumers to buy a product even though each wanted only a single component. This saved the manufacturer costs.

34. More generally, businesses can exploit the law of large numbers when they are producing products that have many components.<sup>13</sup> Consumers place different valuations on the

<sup>13</sup> See Richard Schmalensee, “Commodity Bundling By Single-Product Monopolies,” *Journal of Law and Economics*, Vol. 25, April 1982; and Yannis Bakos and Erik Brynjolfsson, “Bundling Information Goods: Pricing, Profits, and Efficiency,” *Management Science*, Vol. 45, No. 12, December 1999, pp. 1613-1630.

various features available to them. You value the arts section of the newspaper highly while your spouse does not care much for it; your spouse values the sports section highly while you do not care much for that section. The valuations for any component can be quite dispersed across consumers with different tastes. If you combine all these components into a single product the variations tend to cancel each other out. At any given price there will be more people who will buy the bundle than would buy any component or subset of components.

35. This of course means that many people are getting components that they do not care for. But if it does not cost much to provide these components and if it is expensive to offer multiple product versions, bundling components together into a single product typically expands demand. These assumptions are especially likely to hold for information goods for which the marginal cost of providing the product (and any component of it) is low and the costs of developing and distributing the product is high. Newspapers are a good example. They provide many features from crossword puzzles, to astrology tables, to business, to dance that only a portion of their readers care about. But relative to the cost of producing the newspaper, these features are not that expensive to add. By including them the newspaper brings in more readers at its typical price, sells more copies, and therefore covers more of the fixed costs of producing the paper.

36. Generally, consumers are better off as a result of such bundling because they can get products they want that either would not be produced or would be more expensive absent bundling.<sup>14</sup>

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<sup>14</sup> Yannis Bakos and Erik Brynjolfsson, "Bundling Information Goods: Pricing, Profits, and Efficiency," *Management Science*, Vol. 45, No. 12, December 1999, pp. 1613-1630.

Suppose that the first tenth of the population of 100 persons would be willing to pay \$10 for component 1, the second tenth \$10 for component 2, and so forth up to component 10.<sup>15</sup> Each would be willing to pay only \$2 for the other nine components. If the firm sells each component separately, it finds it optimal to charge \$2 for each of them, sell to all customers and thereby make \$200. However, every consumer would pay \$28 ( $\$10 + 9 \times \$2$ ) for the bundle of all ten components. By bundling the firm can get all 100 consumers to buy the bundle and makes \$280.

### 3. Customer Segmentation

37. Firms also practice customer segmentation by combining components into different bundles to appeal to different groups of consumers. Some consumers may prefer a fully loaded bundle while others want a bare bones bundle. It is possible to design packages that segment these consumers. Some will want the car with the sports package, while others will want the basic package. One basic reason firms do this is to meet consumer demand—to offer the packages that their customers want to buy.

38. Customer segmentation also facilitates a variant of price discrimination. Firms practice price discrimination by setting different prices to different consumer segments in order to extract more of their willingness to pay. For example, movie theaters may offer senior citizens a discount. Despite its name economists generally view price discrimination as benign or welfare

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<sup>15</sup> See Steven J. Davis, Jack MacCrisken, and Kevin M. Murphy, “Economic Perspectives on Software Design: PC Operating Systems and Platforms,” in David S. Evans, ed., *Microsoft, Antitrust and the New Economy: Selected Essays*, 2002, pp. 400-403.

enhancing since it enables firms to increase output and recover the fixed costs.<sup>16</sup> If movie theaters were prohibited from price discrimination, for example, they might keep prices unchanged but remove the senior citizen discounts. The movie theaters would be worse off because some senior citizens would not buy a ticket at the higher price.<sup>17</sup> Those senior citizens would also be worse off, as would other senior citizens that continue to buy tickets but face a higher price. And society overall would be worse off.

39. With bundling, firms may be able to practice a form of price discrimination by charging a premium to groups that have a particularly high demand for a particular package, and offer an especially aggressive price to consumers that are very sensitive to price but are also willing to take the no frills deal. It is not literally price discrimination as the products sold to different groups are different, but the concept is similar. For this to work there must be a predictable correlation between combinations of components and demand (e.g. elastic demand, low demand for frills). A number of studies have found, for example, that automobile companies have much higher markups on luxury models than base models.<sup>18</sup>

#### **D. Summary of Optimal Product Design and Product Offerings**

40. There is no single explanation as to why businesses offer pure components, mixed bundling, or pure bundling. The most profitable strategy depends on the particular cost and

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<sup>16</sup> See the discussion of price discrimination in Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industry Organization*, 4<sup>th</sup> edition, 2005, pp. 293-312.

<sup>17</sup> This would be partially offset by higher prices paid by senior citizens who continue to purchase at the higher price, but only partially as the movie theaters found it profitable to offer the discount in the first place.

<sup>18</sup> Steven Berry, James Levinsohn, and Ariel Pakes, "Automobile Prices in Market Equilibrium," *Econometrica*, Vol. 63, No. 4, July 1995.

demand situation faced by the firm as well as what the competition is doing. But there are some general tendencies.

41. Firms offer pure bundles of components when:

- There is little demand for other combinations of these components relative to the cost of offering them.
- The marginal cost of including components is very low relative to the additional customers that are pulled in.
- Pure bundling is an effective method for appealing to different customer segments.

42. Firms offer mixed bundles when:

- There is sufficient demand for a product configuration relative to the cost of offering it.
- Different bundled offerings facilitate segmenting customers.

43. Firms offer components without any bundles when:

- There is little demand for combining components or consumers can do this themselves very easily.
- The fixed or marginal costs of combining components are prohibitive relative to demand.

44. Economists have identified circumstances in which firms may not offer the product configurations that are identical to what an all-knowing planner, seeking to maximize social welfare, would do. For example, under certain assumptions firms offer too much product variety and offer bundles that are socially inefficient. Under other assumptions, they might not offer bundles that would benefit consumers. But there is no theoretical basis for concluding that there are systematic biases or ones that can be identified, much less corrected, through regulatory intervention.<sup>19</sup> And these possibilities should not make us lose sight of the fact that bundling of

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<sup>19</sup> See David S. Evans and Michael Salinger. "Why Do Firms Bundle And Tie? Evidence From Competitive Markets And Implications For Tying Law," *Yale Journal on Regulation*, Vol. 22,

features saves producers and consumers money, provides consumers with products they want, and is often a source of product innovation in industries.

#### **IV. Possible Anticompetitive Uses of Bundling**

45. Antitrust courts and regulators have expressed concerns over the possible anticompetitive use of bundling by firms with significant market power to foreclose otherwise competitive markets. Economists have found that many of these concerns are misplaced. But economists have also found that there are a few situations in which firms may use bundling strategically to harm competition and consumers. I begin by summarizing the famous Chicago single-monopoly profit theorem, which shows that under certain assumptions firms with monopoly power in one market do not have the incentive to attempt to extend their monopoly power to other competitive markets. I then examine economic theories which show that under some conditions firms with monopoly power have both the incentive and the ability to engage in tying to either extend their monopoly to another market or to protect their current monopoly.

46. The potential for anticompetitive effects depend on highly specific circumstances. The economists who have identified models suggesting potential anticompetitive effects from tying caution that the results cannot be interpreted broadly. Michael Whinston writes, "Even in the simple models considered here, which ignore a number of other possible motivations for the practice, the impact of this exclusion on welfare is uncertain. This fact, combined with the difficulty of sorting out the leverage-based instances of tying from other cases, makes the

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2005, pp. 37-89. See also Yannis Bakos and Erik Brynjolfsson, "Bundling Information Goods: Pricing, Profits, and Efficiency," *Management Science*, Vol. 45, No. 12, December 1999, pp. 1613-1630.

specification of a practical legal standard extremely difficult.”<sup>20</sup> Carlton and Waldman note, “[W]e would like to caution that trying to turn the theoretical possibility for harm shown here into a prescriptive theory of antitrust enforcement is a difficult task. For example, the courts would have to weigh any potential efficiencies from the tie with possible losses due to foreclosure, which by itself is challenging due to the difficulty of measuring both the relevant efficiencies and the relevant losses.”<sup>21</sup>

### A. Single Monopoly Profit Theorem

47. Early theories of tying argued that a firm could tie a monopoly in one product to a second, otherwise competitive, product and gain a monopoly in the second product. The single monopoly profit theorem shows that this is theoretically impossible under certain circumstances. Suppose a firm has a monopoly in *A*. Consumers use *A* and *B* in fixed proportions—for example cars and radios and computers and microprocessors. The marginal cost of supplying *B* is *c* which equals its price under competitive supply. Consumers have a demand for the combination *A+B*—they do not demand *A* separately from *B*, or vice-versa. The monopolist maximizes profit by determining the profit-maximizing price for this combination. That gives the monopolist the most profit it could possibly obtain. The monopolist can achieve this profit in several possible ways. It could offer the bundle at a combined price  $p_C$ . It could offer *A* only at a price  $p_C - c$  and have consumers purchase *B* from competitive suppliers. It could also offer *A* at a price of  $p_C - c$  and *B* at a price of *c* along with the other competitive suppliers. From the monopolist’s

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<sup>20</sup> See also Michael D. Whinston, “Tying, Foreclosure, and Exclusion,” *The American Economic Review*, Vol. 80, September 1990, pp. 855-856.

<sup>21</sup> See Dennis W. Carlton and Michael Waldman, “The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries,” *RAND Journal of Economics*, Vol. 33, No. 2, Summer 2002, p. 215.

standpoint, it has nothing to gain by getting a monopoly in **B** because it would still collect the same monopoly profit based on the combined price of  $p_C$ .

48. Indeed, the only incentive for the monopolist in this example is to make sure that someone is combining **B** competitively. This is known as the “double monopoly markup”.<sup>22</sup> If another firm had a monopoly in **B** that firm would restrict the output of **B** and raise its price above  $c$ . That would tend to reduce the sales of **A** and hurt the **A** monopoly’s profits. So in this case monopoly **A** has an incentive to create competition in **B** perhaps by producing **B** itself.

49. The same principles apply when **A** and **B** are used in variable proportions. However, in that case there are possibilities for increasing monopoly profit through bundling that would need to be considered. In many of these cases, however, profits can be increased because bundling facilitates price discrimination. For example, IBM used to require its mainframe customers to also purchase the punch cards used with the mainframe from IBM, and at a higher price than supplied elsewhere. Customers agreed to this because they had limited alternatives for IBM’s mainframes. This helped facilitate price discrimination. Customers who valued the mainframes more were also those that generally used more punch cards, so they paid more. Customers who used fewer punch cards and valued the mainframes less, paid less. With profitable price discrimination such as this, firms’ profits increase, but social welfare and consumer welfare often increase as well. For example, without the ability to price discriminate, IBM might have simply priced the mainframes above the value placed on them by the low use customers, and made its money from the high use customers.

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<sup>22</sup> See the discussion of “double monopoly markup” in Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industry Organization*, 4<sup>th</sup> edition, 2005, pp. 415-419.

## **B. Acquiring or Maintaining Monopoly Through Tying**

50. Economists have identified two sets of circumstances in which monopoly firms have the incentive and the ability to tie their monopoly product to a non-monopoly product when *A* and *B* are not used in fixed proportions. The crux of these theories is that there are scale economies in the production of *B*. By foreclosing enough demand to competing producers of *B*, the monopolist denies them scale economies and captures the *B* market.<sup>23</sup>

51. In these cases it is possible to identify situations in which (1) the monopolist finds that it is profitable to tie *B* to *A* to foreclose the market to competing *B* suppliers and (2) raise the price of *B* higher than it would be in the absence of this foreclosure and (3) thereby reduce consumer welfare. Carlton and Perloff give the example of a hotel on an island whose guests like to play tennis. By tying the use of the hotel to a tennis club the hotel can deny enough volume to other tennis clubs and end up with a tennis club monopoly. It will then be able to charge guests and non-guests a higher price for playing tennis.

52. It is also possible to find situations where the monopolist finds it beneficial to monopolize the *B* market because it is possible that the *B* producers will evolve over time into competitors in *A*. Therefore, the monopolist engages in foreclosure to prevent an erosion of its profits in *A* rather than to obtain profits in *B*.<sup>24</sup>

53. As noted above, the economists who have authored papers identifying these possible anticompetitive uses of tying have been careful to note that they are special cases and

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<sup>23</sup> Jean Tirole, "The Analysis of Tying Cases: A Primer," *Competition Policy International*, Vol. 1, Spring 2005.

<sup>24</sup> Dennis W. Carlton and Michael Waldman, "The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries," *RAND Journal of Economics*, Vol. 33, No. 2, Summer 2002.

that one would need to determine whether the conditions under which they could occur apply in the particular case in question.<sup>25</sup> However, three observations are worth keeping in mind:

1. Tying strategies are costly—the monopolist provides a suboptimal package to consumers (it denies them choices they would like to have) and therefore sacrifices profits. It must weigh these losses against future gains resulting from foreclosure.
2. These tying strategies only work if the monopolist can completely foreclose competition in the tied-good market, or at least substantially reduce it. Therefore, the success of the strategy depends on there being barriers to entry into the tied good market.
3. Foreclosure of competition in the tied good market does not necessarily lead to lower consumer welfare.

## V. Bundling Practices in Telecom

54. Package offerings are pervasive from land-line providers, wireless providers, and cable providers. Some packages have been around for a long time. For example, basic cable comes with a fixed number of channels for the same price. You cannot take only the channels you want to watch. More recently, package offerings have become more common, as technology and changes in the regulatory environment has facilitated the convergence of voice, data, and video services, and as firms have competed to offer appealing bundles of services to consumers.

55. Wireless telephone competitors were the first to offer bundled packages of local and long distance service. Wireless telephone service commonly comes bundled with calling features such as voicemail and caller ID, as well as a bucket of minutes. In competition with the wireless providers, and in competition with each other, land-line providers also began to offer bundled packages, commonly including local and long distance service, as well as a choice of calling features. With the growth of cable modem broadband access and Voice over IP (VoIP)

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<sup>25</sup> See Dennis W. Carlton and Michael Waldman, "The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries," *RAND Journal of Economics*, Vol. 33, No. 2, Summer 2002. See also Michael D. Whinston, "Tying, Foreclosure, and Exclusion," *The American Economic Review*, Vol. 80, September 1990, pp. 837-859.

telephone service, as well as cable-provided circuit switched phone service, cable companies and other providers have further broadened their bundled offerings. Cable providers commonly offer packages or discounts that include cable television service, cable modem service, and voice service (either circuit-switched or VoIP). Land-line telephone providers have offered DSL broadband access to compete with the cable companies and are also exploring ways to counter the video services offered by cable. For example, Verizon partnered with DirecTV to offer a competitive bundle to the cable providers.<sup>26</sup> In addition, wireless providers are developing ways to offer broadband access and some limited video services.

56. I describe below the types of package offerings commonly available today from different providers, using services available in the Boston area, where my home and office are located, as an example.

#### **1. Wireless Telephone Service**

57. In the Boston area, wireless carriers typically offer bundled packages of services. For example, T-Mobile offers both nationwide and regional calling plans in the Boston area. The Basic Individual Calling Plan for \$19.99 offers 60 whenever minutes and 500 weekend minutes. Additional minutes are 45 cents per minute. The following features are included with the plan: voicemail with paging, caller ID, conference calling, call waiting and call hold, customer care, directory assistance, emergency calls, and detailed billing. T-Mobile's Boston Regional Rate Plan costs \$49.99 and provides 3,000 whenever minutes. Additional minutes cost

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<sup>26</sup> Jim Smith, "Combined Bill for Telecommunications and DIRECTV Service Sweetens Deal for New Bundle Customers," Press Release, February 8, 2005, available at <http://newscenter.verizon.com/proactive/newsroom/release.vtml?id=89219>.

35 cents per minute. The same calling features included with the national plan are included with the regional plan.

58. T-Mobile customers therefore do not have the option of purchasing wireless service without the included calling features. Nor do they have the option of purchasing a basic plan without included minutes. The same is true for all other major wireless providers: Cingular Wireless, Nextel, Verizon Wireless, and Sprint. With minor exceptions, their plans include bundled calling features.<sup>27</sup> And all plans include a bucket of minutes as part of the plan.<sup>28</sup>

## **2. Circuit-Switched Telephone Service**

59. Comcast offers phone service in the Boston area.<sup>29</sup> The Any Distance Plan for \$48.95 provides unlimited local and long distance service, as well as standard calling features. The Connection Plus for \$22.95 offers unlimited local calling, 7 cents per minute out-of-state calls, 5 cents per minute out-of-local-area calls, and standard calling features. The most basic plan available provides no standard features and no long distance for \$16.00. As is common with Comcast, discounts are available for bundling digital phone services with high-speed internet and/or digital cable.<sup>30</sup>

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<sup>27</sup> The one exception I am aware of from reviewing these companies' web sites and in some cases calling for clarification is that certain Nextel plans (its National Power Plan, National Team Share, and Local Instant Connect Plan) do not include either voicemail or caller ID.

<sup>28</sup> One Nextel plan (Local Instant Connect) included unlimited calls to other subscribers but does not include minutes to call non-subscribers. Also, certain prepaid plans require customers to fund their accounts. The prepaid amounts expire after a set period of time, which is the same as a consumer paying a fixed fee and obtaining the minutes covered by the fee.

<sup>29</sup> Information obtained through a conversation with a sales representative, June 7, 2005.

<sup>30</sup> See "Special Offers," available at [http://www.comcast-ne.com/bundle\\_offers.html](http://www.comcast-ne.com/bundle_offers.html), downloaded on June 8, 2005; and "Products and Services," available at [http://www.comcast-ne.com/bundle\\_packages.html](http://www.comcast-ne.com/bundle_packages.html), downloaded on June 8, 2005.

60. Other providers also offer local plans. SBC and Trinsic Communications—providers of local service in the Boston area—offer only local plans that include unlimited local calls, as well as at least some calling features.<sup>31</sup> RCN's basic plan includes unlimited local calling with no standard features.<sup>32</sup> Like Comcast, Trinsic and RCN offer packages that include unlimited local and long distance calling for a fixed rate.

61. Verizon offers similar packages to its competitors, but offers more a la carte options. Verizon customers can purchase metered local service, with no local minutes or calling features included as part of the plan. Verizon customers can also purchase local service without purchasing long distance service from Verizon, and can purchase long distance service without purchasing local service from Verizon. In the bundling taxonomy described above, Verizon is engaging in full mixed bundling, while other local providers generally offer tied mixed bundling with respect to some features.

### **3. Voice Over IP Telephone Service**

62. Voice over IP (VoIP) services are also typically offered in bundles. AT&T, for example, offers VoIP plans in the Boston area. For \$19.99 per month, the AT&T CallVantage Local Plan offers unlimited local calling and 4 cents per minute long distance calls. The package includes the following calling features: conference calling, voicemail, call log, phone book, locate me, speed dial, do not disturb, three-way calling, alternative 911 or alternative E-911 Service, call forwarding, call waiting, caller ID, safe forward number, fax and modem support,

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<sup>31</sup> According to a conversation with an SBC sales representative on June 8, 2005, extended local area calls are outside the local calling area are treated as long distance. SBC's local plan calling features are available at <http://www.sbc.com/gen/general?pid=1106>. Trinsic's local plans are available through [www.trinsic.com/teloa/getTN.do](http://www.trinsic.com/teloa/getTN.do).

<sup>32</sup> Information provided by an RCN sales representative on June 10, 2005.

and directory assistance. AT&T CallVantage Service Plan adds unlimited long distance calling in the United States and to Canada for an additional \$10.00 a month.

63. Vonage offers two residential plans. Its \$24.99 monthly Premium Unlimited offers unlimited calling anywhere in the U.S. and Canada and includes standard calling features. And its Basic 500 Plan offers 500 minutes for calls throughout the U.S. and Canada, with a 3.9 cent rate for additional minutes. This \$14.99 monthly plan also includes standard calling features.

#### **4. Internet Access**

64. DSL and cable modem service are the two most common types of broadband internet access in the United States. Both types of service are generally sold at a flat rate for unlimited use. Higher speed access is sometimes available for a premium. In the Boston area, Comcast offers cable modem access at \$42.95 per month for customers who also subscribe to its cable television plans and for \$57.95 for customers who do not subscribe to cable television. RCN also offers discounted packages with cable modem and cable television service.

65. Verizon offers DSL for \$29.95 per month with a one year commitment, and offers a \$5 monthly discount for customers who also subscribe to one of its local and long distance packages.<sup>33</sup> Verizon has explained elsewhere that its DSL subscribers can cancel their Verizon phone service, keep their Verizon DSL service, and start receiving their voice service from a VoIP provider, cable company, or wireless provider.<sup>34</sup> Verizon has also explained that it will be

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<sup>33</sup> Regional and Freedom package customers are eligible for this discount with the purchase of a qualifying affiliate product, which includes DSL, dial up internet access, DirecTV service, and Verizon's One-Bill service.

<sup>34</sup> See, e.g., Verizon Tariff FCC No. 1, Section 16.8(d)4.

expanding its standalone DSL offer shortly.<sup>35</sup> America Online has also started offering DSL service in some locations, with plans to expand nationally.<sup>36</sup>

## **B. Reasons for Package Offerings**

66. The packages commonly offered for telecommunications services offer benefits to consumers. Consider, for example, a consumer going to Verizon's web site. On the initial web page for local service, the consumer is offered a choice of three packages that fit the needs of (a) households that primarily make local calls, (b) households that primarily make local and regional toll calls, and (c) households that make local, regional, and long distance calls.<sup>37</sup> The consumer can review the features of each of the three packages and simply pick one if it fits well with her needs. She can also review additional package offerings that are variants of the three initial offerings.

67. If none of them seem satisfactory, or if she wants to research further, she can choose the a la carte route. But doing so involves going through a time consuming set of choices. She starts by picking a local service plan. She can choose to only get the "Measured Rate Service" plan and pay \$12.70 monthly to make calls within the local calling area. This plan includes no regional or long distance calling, and does not include any calling features or

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<sup>35</sup> Reply Declaration of Michael K. Hassett, Tom Maguire, Michael O'Connor, and Vincent J. Woodbury, submitted in *In the Matter of Verizon Communications and MCI, Inc. Applications for Approval of Transfer of Control*, WC Docket 05-75, and Redacted for Public Inspection (May. 24, 2005).

<sup>36</sup> David A. Vise, "AOL Aims to Get Up to Speed with DSL," *Washington Post* (June 2, 2005).

<sup>37</sup> These are the "Verizon Basic Service" for \$36.64 a month that includes unlimited local calling, a 10 cent per minute rate for long distance weekday calls, and a 7 cent a minute rate for long distance weekend calls; the "Verizon Regional Package Unlimited" for \$37.00 monthly, which adds unlimited regional toll calling and standard calling features to the features in the local package; and for \$49.95, the "Verizon Freedom Unlimited" package adds unlimited long distance calling to the features in the regional package.

minutes. She also could choose the other local calling plan, the "Flat Rate Service." With this plan, she can have unlimited local calling in her calling area for \$19.64 per month. No calling features are available in this plan either. After she chooses one of these local plans, she can add any of the calling features available under the package options, either individually, or in a discounted package.

68. She can choose to add Verizon as her regional toll provider with no monthly fee and a 7 cents per minute rate. She can also add Verizon as her long distance carrier, with a choice of a monthly fee of \$1.50 and a rate of 10 cents per minute weekdays and 7 cents per minute weekends, or a monthly fee of \$4.95 and a rate of 5 cents per minute anytime.<sup>38</sup> She can choose Verizon to provide only regional toll service or only long distance service or both. She can also choose from over 100 carriers for regional or long distance service. Or she can choose not to have a regional or long distance carrier.

69. The package offerings bypass this maze of decision making. Instead, consumers decide whether they like the configured packages. They can pick the most attractive package, as well as compare it to alternatives offered by competitors.

70. When most consumers want certain features, firms will offer those features as part of a package for consumer convenience. When enough consumers want those features, firms may not even offer a package that excludes those features. For example, as I discussed above, wireless telephone operators typically include calling features such as voicemail, caller ID, call waiting, and three-way calling as part of every package they offer.<sup>39</sup> These wireless companies

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<sup>38</sup> For simplicity, I do not discuss the international long distance or calling card options.

<sup>39</sup> This is true for major wireless operators such as Cingular, Sprint, T-Mobile, and Nextel. Examples of plans with standard calling features can be found through links at the following web

operate in highly competitive environments.<sup>40</sup> It is implausible that they bundle for anticompetitive rather than efficiency reasons.

71. Consumers also benefit from one stop shopping. Consider grocery shopping. Many consumers benefit from going to one supermarket for all of their food needs. While one store might not be perfect for all needs—a different store might have a better produce department—many consumers find the efficiencies in making one trip worthwhile. They might switch supermarkets altogether but they will switch from one one-stop shop to another. That is, they are comparing bundles, rather than shopping for each item in the bundle. The same is true for many consumers in regard to telecommunications services. Rather than make separate decisions about local telephone service and long distance service, or separate decisions about telephone service and internet access, some consumers benefit from being able to compare one bundle of services to another. And they also benefit from only having to review and pay one bill.

72. There are also cost savings for firms in offering bundles. While the costs of consumers ordering on the web site are lower, most sales are still made over the telephone, where there are significant costs involved. Offering consumers a few bundles, rather than going through every a la carte option as above, can save firms significant telemarketing costs. There is also an efficiency benefit for the consumer from spending less of her time on the call. For packages that offer unlimited calling, firms can also save when they do not have to retain the call detail information necessary for itemized call billing.

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sites: [www.cingular.com](http://www.cingular.com), [www.sprint.com](http://www.sprint.com), [www.tmobile.com](http://www.tmobile.com), and [www.nextel.com](http://www.nextel.com). See *Supra* Note 26 for three Nextel plans that do not include voicemail or caller ID.

<sup>40</sup> According to the Federal Communications Commission, roughly 87 percent of the U.S. population lives in a county with at least five wireless companies competing to offer wireless service. See Ninth Report, *In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, FCC WT Docket No. 04-111, Released September 28, 2004, ¶ 49.

73. There are also demand side reasons for offering packages. Industries that have high fixed costs and low marginal costs cannot price at marginal cost and cover the fixed costs that have to be incurred in the long run to maintain investment in the system. Firms in these industries often have to find ways of offering bundled pricing.<sup>41</sup> Wireless telephone providers, which operate in competitive environments, again provide a useful illustration. As I discussed, every calling plan from every major wireless operator includes some bucket of minutes as part of the plan.<sup>42</sup> The base national plan offered by Cingular, for example, includes 450 anytime minutes and 5,000 nights and weekends minutes.<sup>43</sup>

74. The buckets of minutes in wireless plans also offer consumers benefits in increased certainty of their wireless costs. They get a sizeable number of minutes and a fixed monthly fee, as long as they stay within their package limits. Cost certainty is, of course, greatest with services that offer unlimited usage for a fixed fee. Local and long distance telephone providers offer such fixed fee plans, as do internet access providers.

### **C. Evaluation of Anticompetitive Explanations**

75. The previous section suggests that there are significant efficiencies associated with the bundled packages offered in this industry. In this section, I assess the plausibility of anticompetitive explanations for the bundling practices seen in the telecommunications industry.

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<sup>41</sup> Carl Shapiro & Hal Varian, *Information Rules*, Cambridge, MA., Harvard Business School Press, 1999.

<sup>42</sup> See Cingular rate plans available through “Shop Cingular” at <http://www.cingular.com/indexc>, Nextel individual and group plans available at <http://www.nextel.com/>, T-Mobile plans available at <http://www.tmobile.com/>, Sprint plans available at <http://www.sprint.com/>, and Verizon plans available at <http://www22.verizon.com/wireless/?ID=Home>.

<sup>43</sup> Available under “Individual Plans” at [http://onlinestorez.cingular.com/cell-phone-service/get-started/shopping\\_options.jsp;dsessionid=V5TWSG3LQFDLVB4R0HZSFFA?returnURL=/cell-phone-service/wireless-phone-plans/cell-phone-plans.jsp&\\_requestid=37980](http://onlinestorez.cingular.com/cell-phone-service/get-started/shopping_options.jsp;dsessionid=V5TWSG3LQFDLVB4R0HZSFFA?returnURL=/cell-phone-service/wireless-phone-plans/cell-phone-plans.jsp&_requestid=37980).

It is important to note that, in many cases, firms are offering full mixed bundling. For example, consumers can get local and long distance telephone service separately from many providers. Full mixed bundling—the ability to get any good separately—is often viewed as the remedy in tying cases.<sup>44</sup> This alone suggests that it is unlikely that these practices are likely to be anticompetitive.

76. These discounted packages offered could, however, raise a potential anticompetitive issue if:

1. The discounts amounted to an effective tie (consumers would almost always choose the bundle);
2. Other firms could not offer similar packages;
3. There was a significant likelihood that one firm could drive others out of providing an effectively tied service; and
4. The remaining firm could recoup the losses sustained from any such predatory behavior.

77. If those four conditions were met, then potential offsetting efficiencies would also have to be considered. I have considered four main categories of potential “tied” markets that could hypothetically be monopolized by an effective tie: calling services, long-distance telephone services, video services, and broadband internet access. I discuss below why none of the four conditions for potential anticompetitive effect are met for these bundles.

### **1. Calling Features**

78. Calling features, such as caller ID or call waiting, are enhancements to the basic service rather than separate products. It is infeasible for a customer to get local telephone service

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<sup>44</sup> For example, the remedy sought by the European Commission in its case against Microsoft’s inclusion of Windows Media Player in Windows is for Microsoft to offer a version of Windows without Windows Media Player.

from one provider and calling features from another. For example, Comcast does not sell calling features to Verizon subscribers, or vice versa. There is therefore no market consisting of calling features, separate from local telephone service, let alone one that is a plausible tied market that could be monopolized. Moreover, land-line, wireless, and VoIP providers all offer similar calling features, so there is no provider that is disadvantaged by an inability to offer calling features.

## **2. Long Distance Service**

79. Telephone providers do not typically require customers to purchase both local and long distance service from the same company. Customers can typically buy local service from land-line, wireless, and VoIP providers without buying long distance service.<sup>45</sup> These firms do typically offer discounted packages of local and long distance serviced. These discounts can only raise a potential anticompetitive issue if the four conditions listed above are met, which they are not.

80. First, the existence of the discounted package does not mean that all consumers buy local and long distance service from the same provider. For example, many consumers buy land-line local service from one provider and land-line long distance service from another. Other consumers may use land-line for local service and wireless for long distance.

81. Second, discounts for buying bundles of local and long distance service are common from all providers—land-line, wireless, and VoIP. One firm's discounted package does not therefore prevent other firms from competing for customers.

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<sup>45</sup> The limited exceptions I am aware of in the providers I discuss above are Trinsic, whose base local plan includes 50 minutes of long distance service; and Vonage, whose base local plan includes 500 long distance minutes.

82. Third, it is unlikely that any firm could monopolize the provision of long distance services. For example, in the Boston area, customers can choose from over 100 land-line long distance providers.<sup>46</sup> They can also use long distance services from wireless companies and VoIP providers. Many customers might prefer to get both local and long distance service from one company—for example, because of the one stop shopping benefits discussed above. They can shop around among different providers. It is implausible that one firm could offer sufficiently low package prices to drive other long distance providers from its service areas. The capacity to provide land-line, wireless and VoIP long distance service has already been sunk. Having made those investments, firms are unlikely to exit.

83. And fourth, even if competitors could hypothetically be driven out, recoupment is similarly implausible. As with any potential predation, there would be losses from setting below cost prices in the short run—and consumers would benefit. There is no likelihood that a firm could recoup those losses. Even if other long distance providers were to temporarily exit, given their existing capacity they could and would quickly re-enter when any attempt at recoupment is made.

### **3. Video Services**

84. Television providers do not typically require customers to purchase other services they sell, such as broadband internet access or telephone services. Cable providers commonly offer discounts for bundled packages. Comcast, for example, offers a \$20 monthly discount to customers who subscribe to both cable television and cable modem services, and a \$10 monthly discount for customers who subscribe to both cable television and telephone service. RCN also

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<sup>46</sup> See, for example, the number of long distance carriers available for customers purchasing residential service from Verizon. Available through <http://www22.verizon.com/>.

offers discounted packages of cable television with cable modem and/or telephone service.<sup>47</sup> Similarly, DirecTV also has a partnership with Verizon, under which Verizon Regional and Freedom plan customers receive a \$5 monthly discount. The analysis of potential anticompetitive effects differs for the bundles offered by the cable companies versus that offered by DirecTV and Verizon.

85. For DirecTV/Verizon, the discounts can only raise a potential anticompetitive issue if the four conditions listed above are met, which they are not. First, most Verizon telephone customers do not subscribe to DirecTV. Second, cable companies offer similar bundles of video and telephone services to consumers. As noted above, the DirecTV/Verizon partnership was in part a response to the bundled packages offered by cable providers. Third, it is implausible that DirecTV and Verizon could monopolize the provision of television services through this discount plan. There is no likelihood that DirecTV will achieve anything approaching a monopoly position. DirecTV is significantly smaller than its cable competitors.<sup>48</sup> And even if DirecTV could monopolize the provision of television services, there is no likelihood that it could recoup its losses. As with telephone services, much of the cost of providing cable television is from infrastructure with sunk costs. Cable television providers would therefore quickly re-enter if any attempt at recoupment is made.

86. The analysis differs in regards to cable companies. The standard claim of tying is that a firm is extending monopoly power from the already monopolized tying product to the

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<sup>47</sup> Various bundle options are available at <http://www.rcn.com/>.

<sup>48</sup> As of June 2004, cable companies had a 72 percent share among multichannel video programming distribution providers, compared to a 25 percent share for satellite companies. See Eleventh Annual Report *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Federal Communications Commission, MB Docket No. 04-227, February 4, 2005, p. 4.

otherwise competitive tied product. The cable companies' core service has historically been cable television, so it would not appear plausible as a market they are seeking to monopolize through tying.

#### **4. Broadband Internet Access**

87. Some broadband internet access providers do not require customers to purchase other services they sell. For example, cable modem access is often available without buying cable television service, although discounts are offered for the bundled packages. For example, in the Boston area, Comcast cable modem service is about 35 percent higher to non-cable TV subscribers than to subscribers (\$57.95 to \$42.95). The \$15 difference is greater than the cost of the required base level of Verizon local telephone service required to get DSL. And, as discussed above, Verizon's DSL customers can cancel their Verizon phone service while keeping their standalone DSL service.

88. Some local exchange carriers require customers to get local telephone service in order to get DSL. In those circumstances where a customer must take local phone service to get DSL broadband access, there is no potential for this tie to have anticompetitive effects.

89. As noted above, the standard tying claim is that a firm is extending monopoly power from the already monopolized tying product to the otherwise competitive tied product. That is implausible here as DSL faces very substantial competition among broadband providers. As the Commission has observed, "the competitive nature of the broadband market, including new entrants using new technologies, is driving broadband providers to offer increasingly faster

service at the same or even lower retail prices.”<sup>49</sup> The Commission has also rejected arguments that “BOCs either are not subject to competition with respect to their broadband offerings, or are constrained only by a duopolistic relationship with cable operators. . . . broadband technologies are developing and we expect intermodal competition to become increasingly robust, including providers using platforms such as satellite, power lines, and fixed and mobile wireless in addition to the cable providers and BOCs.”<sup>50</sup>

90. Cable modem service accounts for more than 61 percent of residential and small business customers receiving download speeds of 200 Kbps and 83 percent of customers that receive more than 200 Kbps in both directions.<sup>51</sup> It is implausible that Verizon or other local exchange carriers have any market power in DSL to leverage to another market.

91. Moreover, given the competition in broadband internet access it would also appear implausible that the tie here could foreclose these competitors—many of whom are large and well-capitalized firms—from selling broadband. Comcast, for example, has already invested in the infrastructure to provide broadband cable modem service. Much of its costs are sunk. It is implausible that Comcast could be driven out of the broadband business. It is similarly

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<sup>49</sup> Fourth Report to Congress, *Availability of Advanced Telecommunications Capability in the United States*, 19 FCC Rcd 20540, 20547 (2004).

<sup>50</sup> Memorandum Opinion and Order *In the Matters of Petition for Forbearance of the Verizon Telephone Companies Pursuant to 47 U.S.C. § 160(c), SBC Communications Inc.'s Petition for Forbearance Under 47 U.S.C. § 160(c), Qwest Communications International Inc. Petition for Forbearance Under 47 U.S.C. § 160(c), and BellSouth Telecommunications, Inc. Petition for Forbearance Under 47 U.S.C. § 160(c)*, Federal Communications Commission, WC Docket No. 01-338, WC Docket No. 03-235, WC Docket No. 03-260, WC Docket No. 04-48, October 27, 2004, ¶ 29; *see also id.* ¶ 22 (the “broadband market is still an emerging and changing market, where . . . the preconditions for monopoly are not present”).

<sup>51</sup> *See* Indus. Anal. & Tech. Div., WCB, FCC, *High-Speed Services for Internet Access: Status as of June 30, 2004*, Tables 3 & 4 (Dec. 2004).

implausible that even if local exchange carriers could drive out competitors such as Comcast, they could then raise prices without the reentry of these competitors.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.



Dated: June 13, 2005

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David S. Evans

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### BIO/SUMMARY

David Evans is an authority on the economics of high-technology and platform-based businesses, primarily as it relates to competition policy and intellectual property. He is the author of four books and more than 70 articles in journals ranging from the American Economic Review, Foreign Affairs, and The Yale Journal on Regulation. His many opinion pieces have appeared in newspapers around the world including the Washington Post, Wall Street Journal, Financial Times, Les Echos, and El Pais. A specialist on competition policy in the US and European Union, a topic on which he has written and lectured extensively, he has served as an expert and testified before courts, arbitrators, regulatory authorities and legislatures in the US and Europe. He has led the economic analysis in several important antitrust cases over the last 25 years including US v AT&T. Most recently, Dr. Evans has led an international economic team on a landmark series of cases involving a large global technology firm in the US and Europe.

From September 2004, he is Visiting Professor of Competition Law and Economics, University College London. He was an Adjunct Professor of Law at Fordham Law School from 1985-1995 where he taught antitrust law and economics. Dr. Evans has a Ph.D. from the University of Chicago.

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C.V. Starr Center, New York University, Visiting Scholar, 1986-1988.

Cera Economic Consultants, Inc., President, 1979-1988.

Charles River Associates, Inc., Senior Research Associate (1976-1979); Research Associate  
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Member, American Economic Association, Econometric Society, American Bar Association,  
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Chairman, eSapience, Ltd.

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## SELECTED PUBLICATIONS

### Books

*Paying with Plastic* (Massachusetts: MIT Press, 1999), with R. Schmalensee; second edition  
(2005).

*Microsoft, Antitrust and the New Economy: Selected Essays* (New York: Kluwer Academic  
Publishers, 2002), editor.

*The Economics of Small Businesses: Their Role and Regulation in the U.S. Economy* (New York:  
Holmes and Meier, 1986), with W. Brock.

*Breaking Up Bell: Essays on Industrial Organization and Regulation* (New York: North Holland,  
1983), editor and co-author of eight of ten chapters.

### Selected Articles

"The Economics of Software Platforms: An Application of Theory of Two-Sided Markets," *CESifo  
Economic Studies*, forthcoming, with Andrei Hagiu and Richard Schmalensee.

"The Logic and Limits of the Exceptional Circumstances Test in *Magill* and *IMS Health*," *Fordham  
Journal of International Law*, forthcoming 2005, with Christian Ahlborn and A. Jorge Padilla.

"Excessive Prices: Using Economics to Define Administrable Legal Rules," *Journal of Competition  
Law & Economics*, forthcoming 2005, with A. Jorge Padilla.

"Tying Under Article 82 EC and the Microsoft Decision: A Comment on Dolmans and Graf,"  
*World Competition*, forthcoming 2005, with A. Jorge Padilla.

"Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach,"  
*University of Chicago Law Review*, forthcoming 2005, with A. Jorge Padilla.

# LECG

"An Empirical Analysis of Bundling and Tying: Over-the-Counter Pain Relief and Cold Medicines," with Michael A. Salinger, in G. Illing and M. Peitz (eds.), *Industrial Organization and the Digital Economy* (Cambridge, MA: MIT Press, forthcoming 2005).

"Why Do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law," *Yale Journal on Regulation*, Vol. 22, No. 1, Winter 2005, with Michael A. Salinger.

"How Economists Can Help Courts Design Competition Rules – An EU and US Perspective," *World Competition*, forthcoming March 2005.

"The Role of Cost in Determining When Firms Offer Bundles and Ties," Working Paper 2004.

"An Empirical Analysis of Bundling and Tying: Over-the-Counter Pain Relief and Cold Medicines," CESifo Working Paper Series No. 1297, October 2004, with Michael A. Salinger.

"Software Patents and Open Source: The Battle Over Intellectual Property Rights," *Virginia Journal of Law & Technology*, Vol. 9, No.10, Summer 2004, with Anne Layne-Farrar.

"The Antitrust Economics of Tying: A Farewell to Per Se Illegality," *The Antitrust Bulletin*, Spring-Summer 2004, with Christian Ahlborn and A. Jorge Padilla.

"A Pragmatic Approach to Identifying and Analyzing Legitimate Tying Cases," in *European Competition Law Annual 2003: What is an Abuse of a Dominant Position?* (Oxford: Hart Publishing, forthcoming), with A. Jorge Padilla and Michael A. Salinger.

"Managing the Maze of Multisided Markets," *strategy+business*, Fall 2003.

"Some Empirical Aspects of Multi-Sided Platform Industries," *Review of Network Economics*, Vol. 2, Issue 3, September 2003.

"Demand-Side Efficiencies in Merger Control," *World Competition Law and Economics Review*, Vol. 26, No. 2, Summer 2003, with A. Jorge Padilla.

"Has the Consumer Harm Standard Lost Its Teeth?" in *High-Stakes Antitrust - The Last Hurrah?*, Robert W. Hahn, editor (Washington, DC: Brookings Institution Press, 2003), with Howard H. Chang and Richard Schmalensee.

"The Antitrust Economics of Multi-Sided Platform Markets," *Yale Journal on Regulation*, Vol. 20, Issue 2, Summer 2003.

"Everything You Wanted to Know about Two-Sided Markets," *The Milken Institute Review*, Second Quarter 2003, with Peter Passell.

"Government Preferences for Promoting Open-Source Software: A Solution in Search of a Problem," *Michigan Telecommunications and Technology Law Review*, Vol. 9, Issue 2, Spring 2003, with Bernard Reddy.

"The Failure of E-Commerce Business: A Surprise or Not?," *European Business Organization Law Review*, Vol. 3, 2002, with Daniel D. Garcia Swartz and Bryan G. Martin-Keating.

"Tying in Platform Software: Reasons for a *Rule-of-Reason* Standard in European Competition Law," *World Competition Law and Economics Review*, Vol. 25, Issue 4, December 2002, with A. Jorge Padilla and Michele Polo.

# LECG

"Who Owns Ideas? The War Over Global Intellectual Property" *Foreign Affairs*, November/December 2002.

"Has The Consumer Harm Standard Lost Its Teeth?," AEI-Brookings Conference Paper, October 2, 2002, with Howard H. Chang and Richard Schmalensee.

"The New Trustbusters—Brussels and Washington May Part Ways," *Foreign Affairs*, Vol. 81, No. 1, January/February 2002.

"Class Certification and the Substantive Merits," 51 *Duke Law Journal*, 1251, 2002, with Robert G. Bone.

"Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries," NBER Working Paper No. 8268 (May 2001); also published in *Innovation Policy and the Economy, Volume 2*, edited by Adam B. Jaffe, Josh Lerner and Scott Stern (The MIT Press: Cambridge, MA, 2002), with Richard Schmalensee.

"Dodging the Consumer Harm Inquiry: A Brief Survey of Recent Government Antitrust Cases," *St. John's Law Review*, Vol. 75, Issue 3, 2001.

"Is Free Software the Wave of the Future?," *The Milken Institute Review*, Fourth Quarter 2001.

"Industry Regulation Through Antitrust: The Clinton Legacy and the Bush Future," *Regulation*, Fall 2001.

"The Problem of Interchange Fee Analysis: Case Without a Cause?," *European Competition Law Review*, Vol. 22, Issue 8, August 2001, with Christian Ahlborn and Howard H. Chang.

"An Analysis of the Government's Economic Case in *U.S. v. Microsoft*," *The Antitrust Bulletin*, Summer 2001, with Albert Nichols and Richard Schmalensee.

"A Monopolist Would Still Charge More for Windows: A Comment on Werden," and "A Monopolist Would Still Charge More for Windows: A Comment on Werden's Reply," *Review of Industrial Organization*, Vol. 18, Issue 3, May 2001, with Bernard Reddy, Albert Nichols, Richard Schmalensee.

"Competition Policy in the New Economy: Is European Competition Law Up to the Challenge?," *European Competition Law Review*, Issue 5, May 2001, with Christian Ahlborn and A. Jorge Padilla.

"*U.S. v. Microsoft, Remedy or Malady?*," in *George Mason Law Review*, 9 (Spring 2001), 633-90, with Kenneth Elzinga and Albert Nichols. Reprinted in D. Evans, ed., *Microsoft, Antitrust and the New Economy: Selected Essays* (Norwell, MA: Kluwer Academic Publishers, 2002.)

"Antitrust and the New Economy," Computer Industry Committee Newsletter, Spring 2001.

"The Competitive Effects of the Collective Setting of Interchange Fees by Payment Card Systems," *The Antitrust Bulletin*, Fall 2000, with Howard H. Chang.

"Be Nice To Your Rivals: How the Government Is Selling an Antitrust Case without Consumer Harm in *U.S. v. Microsoft*," with Richard Schmalensee in *Did Microsoft Harm Consumers?: Two Opposing Views*, David S. Evans, Franklin M. Fisher, Daniel L. Rubinfeld, and Richard Schmalensee, AEI-Brookings Joint Center for Regulatory Studies: Washington D.C., May 2000.

# LECG

"Consumers Lose if Leading Firms Are Smashed for Competing," with Richard Schmalensee in *Did Microsoft Harm Consumers?: Two Opposing Views*, David S. Evans, Franklin M. Fisher, Daniel L. Rubinfeld, and Richard Schmalensee, AEI-Brookings Joint Center for Regulatory Studies: Washington D.C., May 2000.

"Economics for the Third Industrial Revolution," *Viewpoint*, The Marsh & McLennan Companies Journal, No. 1, 1999, with Matthew Leder.

"All the Facts That Fit: Square Pegs and Round Holes in *U.S. v. Microsoft*," *Regulation*, Vol. 22, No. 4, November 4, 1999.

"Joint Ventures: *MountainWest*," in *The Antitrust Revolution*, J. Kwoka and L. White, eds., Third Edition (New York: Oxford University Press, 1998), with R. Schmalensee.

"Some Economic Principles for Guiding Antitrust Policy Towards Joint Ventures," *Columbia Business Law Review*, Vol. 1998, No. 2, with Howard H. Chang and Richard Schmalensee.

"A Guide to the Antitrust Economics of Networks," *Antitrust*, Spring 1996, pp. 36-40, with Richard Schmalensee.

"Market Definition in Antitrust and Patent-Infringement Litigation," *Practising Law Institute*, Volume One, July 1995.

"Economic Aspects of Payment Card Systems and Antitrust Policy Toward Joint Ventures," *Antitrust Law Journal*, Spring 1995, with Richard Schmalensee.

"Small Business Formation and Success by Unemployed Workers," *Small Business Economics*, September 1990, with L. Leighton.

"Trade Associations and the Exchange of Price and Nonprice Information," in B. Hawk, *1992 and EEC/U.S. Competition and Trade Law*, 1990.

"Estimates of a Model of Entrepreneurial Choice Under Liquidity Constraints," *Journal of Political Economy*, August 1989, with B. Jovanovic. Reprinted in Z. Acs, ed., *Small Firms and Economic Growth*, International Library of Critical Writings in Economics (Cheltenham, U.K.: Edward Elgar Publishing, Ltd., 1995).

"Some Empirical Aspects of Entrepreneurship," *American Economic Review*, June 1989, with L. Leighton. Reprinted in M. Casson, *Entrepreneurship*, International Library of Critical Writings in Economics (Hants, England: Edward Elgar Publishing Co., 1990).

"Why Do Smaller Firms Pay Less?," *Journal of Human Resources*, May 1989, with L. Leighton. Reprinted in Z. Acs, ed., *Small Firms and Economic Growth*, International Library of Critical Writings in Economics (Cheltenham, U.K.: Edward Elgar Publishing, Ltd., 1995).

"Small Business Economics," *Small Business Economics*, January 1989, with W. Brock. Reprinted in Z. Acs, ed., *Small Firms and Economic Growth*, International Library of Critical Writings in Economics (Cheltenham, U.K.: Edward Elgar Publishing, Ltd., 1995).

"Tests of Alternative Theories of Firm Growth," *Journal of Political Economy*, August 1987. Reprinted in Z. Acs, ed., *Small Firms and Economic Growth*, International Library of Critical Writings in Economics (Cheltenham, U.K.: Edward Elgar Publishing, Ltd., 1995).

"The Relationship Between Firm Growth, Size and Age: Estimates for 100 Manufacturing Industries," *Journal of Industrial Economics*, June 1987. Reprinted in T. Bresnahan and

# LECG

R. Schmalensee, *The Empirical Renaissance in Industrial Economics* (London: Basil Blackwell, 1988).

"The Differential Effect of Regulation Across Plant Size: Comment on Pashigian," *Journal of Law and Economics*, April 1986.

"The Economics of Regulatory Tiering," *The RAND Journal of Economics*, Autumn 1985, with W. Brock. Reprinted in Z. Acs, ed., *Small Firms and Economic Growth*, International Library of Critical Writings in Economics (Cheltenham, U.K.: Edward Elgar Publishing, Ltd., 1995).

"A Test for Subadditivity of the Cost Function with an Application to the Bell System," *American Economic Review*, September 1984, with J. Heckman. ("Erratum," September 1986.)

"The Audience Revenue Relationship for Local Broadcast Stations," *Bell Journal of Economics*, Autumn 1980, with F. Fisher and J. McGowan.

## OPINION PIECES

"The Real Explanation for Google's Success," *Tech Central Station*, May 25, 2004, with Peter Passell.

"Competition, Coordination and Upheaval," *Credit Card Management*, April 2004.

"Will Retailers Stampede To Drop Signature Debit?" *American Banker*, January 2004.

"What's Yours Is Mine," *Wall Street Journal Europe*, February, 2004.

"Monti's Ivory Tower," *Financial Times*, June 2002.

"What's the Cost of 'Free' Software?," *Wall Street Journal Europe*, March 4, 2002.

"Software gratis: un modelo de futuro?," *Expansión*, October 20, 2001.

"La ley de la competencia en beneficio del consumidor," *El Pais*, Spain, August 2, 2001.

"Le Consommateur Final et la Concurrence Loyale," *Les Echos*, France, July 16, 2001.

"Bank Interchange Fees Balance Dual Demand," *The American Banker*, January 26, 2001.

"An Unnecessary Execution," *Financial Times*, May 31, 2000.

"Target Microsoft: What the breakup will mean," *The Washington Times*, May 30, 2000.

"Ignoring Exhibit A: The Mailbox," *The New York Times*, June 14, 2000.

"Sorry, Wrong Model," *The Washington Post*, May 7, 2000.

"Trial by Fire," *The Industry Standard*, October 8, 1999.

"Schumer Bill on Credit Cards Is Not Needed," *The American Banker*, February 10, 1994.