Unbundling, Investment Incentives, and the Benefits of Competition

Robert W. Crandall
The Brookings Institution

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The Benefits of Competition

In any industry, the benefits of entry and competition derive from one or more of the following:

- Downward pressure on the prices of existing goods or services
- Increases in productive efficiency in delivering these existing goods or services with current technologies
- The introduction of new goods or services or new technologies that allow producers to offer new goods or services or to deliver the existing product mix more efficiently

Potential Benefits of Unbundling

- In telecommunications, network unbundling can only deliver these benefits if it allows more efficient delivery of current services or the development of new services.

- Arguably, this could occur if unbundled access to essential legacy facilities allowed entrants to deliver services more efficiently than incumbents and/or allowed entrants to develop innovative services. However, the benefits from any spur to efficiency caused by unbundling would have to be sufficient to offset the increase in transaction costs that results from regulated network unbundling.

- Moreover, unbundling may deter investment by incumbents and entrants, thereby slowing the development of new services and competing platforms.

Resale and Competitive “Benefits”

- Much of what is currently described as “unbundling” in telecommunications is, in reality, the resale of incumbent services because the entrant provides little value-added to the services that it purchases from the incumbent.

- Therefore, these resale arrangements provide little opportunity for innovation.

- Innovation generally requires the deployment of new network assets through which the entrant can offer new services or at least add value to those delivered to it by the incumbent through any unbundled network facilities that it leases

The U.S. Experience with Unbundling

- The United States was the first major country to attempt to use network unbundling to facilitate local competition. Beginning in 1996, it established an expansive regulatory regime of network unbundling focused principally on traditional voice/data (narrowband) competition.

- When large numbers of the new entrants began to fail in 2000, the unbundling regime was expanded to allow entrants to lease the entire network platform, the UNE platform, at deep discounts. This transformed "unbundling" into what is essentially a form of resale through which the entrants offer the incumbent's unchanged local narrowband services.

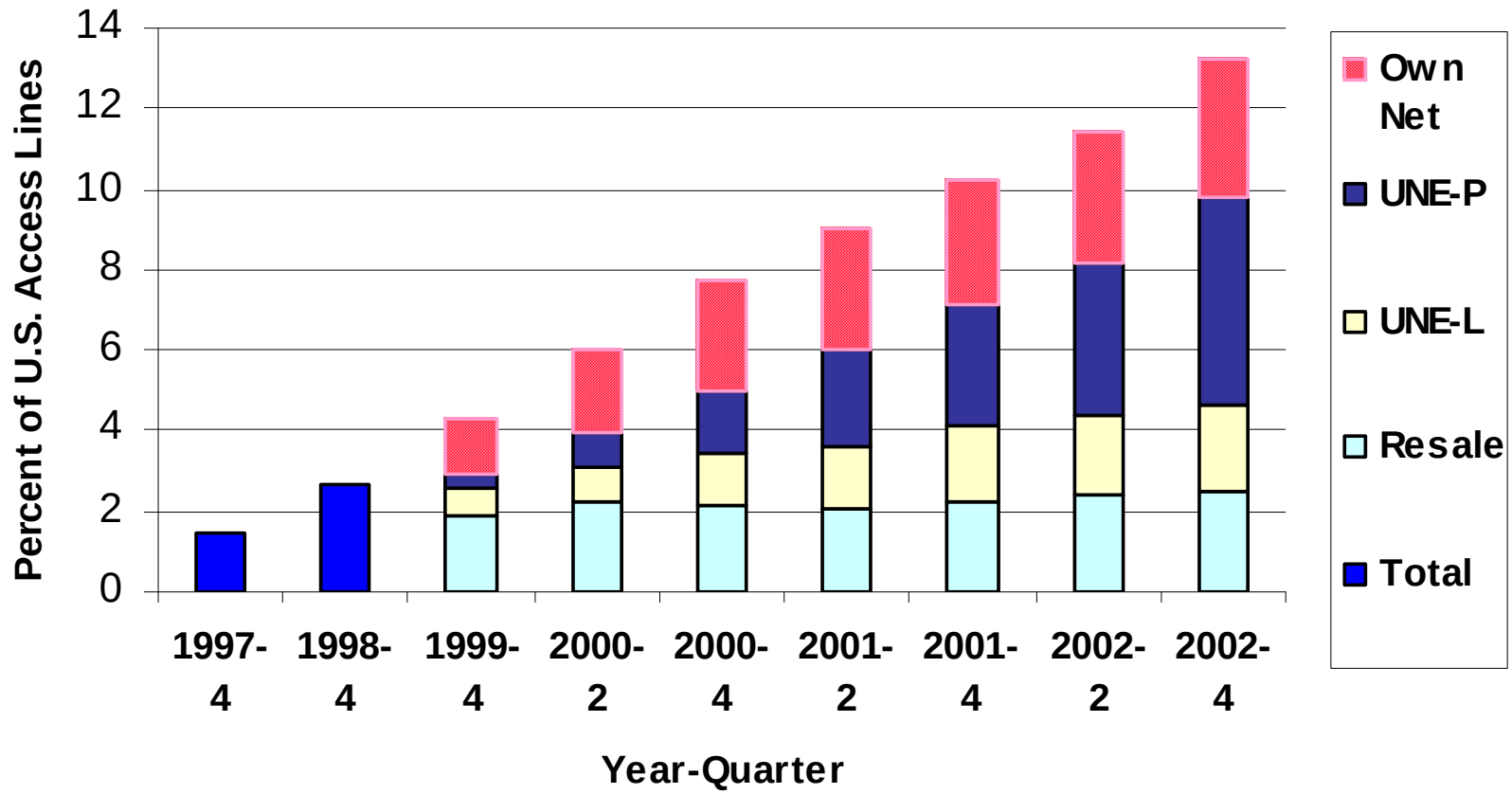
- This form of competition clearly cannot be the source of innovation, and it is only likely to provide customers with lower telecommunications prices if the wholesale price of the UNE platform is set below the actual cost of the platform, including the option value to the entrant of not having to commit its own capital resources.

U.S. Experience (contd.)

- In mid- 2002, approximately 8 percentage points of entrants' 13 percent share of U.S. switched access lines were obtained by the entrants through the UNE platform or simple resale. (see Figure 1)

- The sharp increase in this use of resale has led to a decline in the share of U.S. lines accounted for by the new non-cable television company entrants using their own loops or LLU.

Figure 1
U.S. Local Competitors' Share of Access Lines



Unbundling, Resale, and Network Investment

- The availability of the UNE platform has sharply reduced the incentive for entrants in the United States to invest in their own assets and it has reduced the current and *prospective* cash flows available to the incumbent carriers from their subscriber lines, thereby reducing the incumbents' network capital spending as well.

- Most of the access lines provided through the UNE platform are leased by the long distance companies, AT&T and MCI (formerly Worldcom), who have no intention of building their own local facilities or providing innovative new local services. They simply add the traditional voice services to their service bundles, undercutting the prices offered by the new facilities-based entrants, including those leasing only the local loop.

Bitstream Access

- Bitstream access is another form of resale, but U.S. regulators have not required incumbents to offer it.

- Though often called “unbundling” by its proponents, bitstream access is simply a wholesale service provided by the incumbent that is offered by entrants at retail to subscribers with little or no further value added.

- Use of bitstream access, therefore, does not provide the benefits of competition in the market for broadband services. It simply allows the entrant to exploit the arbitrage opportunities provided by the regulator in setting its wholesale price.

- The innovative services provided through bitstream access are provided by the *incumbent*, not the entrant, because the subscriber services depend entirely on the new network architecture deployed by the incumbent for delivering broadband services, whether through wholesale bitstream access or directly to subscribers.

Bitstream Access (contd.)

- In its Response to the Draft Report, Telstra Clear demonstrates why an entrant would choose to simply resell bitstream services rather than building its own facilities.

- It anticipates that it could obtain the bitstream service at a regulated wholesale price that is just $1.48 more per month than the price of the copper loop (see TelstraClear Submission, p. 16).

- It argues that bitstream has “advantages” over LLU because of “lower upfront capital costs” (see TelstraClear submission, p. 67). Clearly, it seeks to avoid the necessity of deploying its own network facilities, many of which would be sunk, in return for a payment of just $1.48 per month per subscriber.

Effects on Investment Incentives

- Both local loop unbundling and bitstream access create adverse incentives for investment for entrants and incumbents alike and therefore discourage platform competition.

- Obviously, the availability of either allows the entrant to offer services with less capital investment. However, LLU and bitstream access also reduce the incentives for incumbents to invest in new networks, albeit for different reasons.

Effects of LLU on Investment Incentives

- Local loop unbundling, when used by the entrant to offer new services will reduce the incentive of incumbents to deploy new network facilities that offer these same new services in a suite of advanced services unless the wholesale price for the loop includes the price of the option granted to the entrant that permits it to delay its own investment in similar, sunk facilities.

- If this option is not included in the wholesale price, the incumbent is forced to assume the risk of the "stranding" of the copper plant while the entrant receives a free option to avoid such investment risk.

- This pricing, in turn, provides the entrant with an artificial advantage to pursue high-valued customers and to thereby reduce the ability of the incumbent to defray the costs of its new investments in advanced services.

Effects of Bitstream Unbundling on Investment Incentives

- The adverse investment incentives are even worse for mandated bitstream access.
- With bitstream access, the entrant can offer advanced, broadband services with little or no investment while the use of the LLU at least requires investment in DSLAMs, ATM switches, and other network facilities.
- Bitstream access provides the entrant with immediate and virtually unlimited ability to engage in arbitrage, bidding away high-valued customers without having to underwrite the risks of investing in network facilities.
- If the new service proves unattractive to consumers or is superseded by another technology, the entrant loses very little, for it simply ceases to buy the bitstream access. The loser is the network investor, namely, the incumbent. If the service proves successful, the entrant competes for the high valued customers, driving down the returns on the incumbent's investment, leaving the incumbent with little more than a competitive return.
- The incumbent thus bears all the risks of network investment but receives an expected return that is equal to the probability that the new network will prove successful times a competitive return on capital. As long as there is some probability of failure, the investment cannot cover its costs because of bitstream access.

Effects on Investment Incentives - Conclusion

- Therefore, both forms of “unbundling” reduce the incentives for network owners to make risky investments in new facilities or platforms because they allow entrant-arbitrageurs to drive prices quickly to costs if the platform investment is successful.

- But these regimes force the owners of the networks, from whom they lease facilities on a month-to-month basis, to suffer the losses in sunk facilities if these risky investments do not prove successful.

Empirical Evidence on Effects of Unbundling

- Hong Kong was the first jurisdiction to mandate unbundling, beginning one year before the United States despite being among the most densely populated urban areas in the world. As a result, multi-service broadband platform competition has been slow to develop because the major cable-television company has not deployed its cable platform to large parts of Hong Kong, preferring to use low-priced unbundled loops to compete in the broadband market.

- In the U.S., entrants sought to obtain “unbundled” access to the advanced network capabilities required for DSL in Illinois and Minnesota, even seeking to have regulators intervene in incumbents’ network designs. As a result, SBC cancelled its plans to deploy its “Project Pronto” fiber/copper network upgrade.

- Bell companies delayed investment in fiber until FCC decided this year not to require unbundling of new, advanced fiber facilities.

Unbundling and the Benefits of Competition

- The heavy reliance of entrants on resale and unbundling in the United States has not resulted in measurable consumer benefits through lower prices or the development of innovative new services.

- The inflation-adjusted Consumer Price Index for local residential service has risen slightly since 1995.

- Some of this increase could be due to the Federal Communications Commission's increases in fixed line charges and universal-service fees. However, FCC data on average local charges for urban residences evidence a slight increase since 1995 even after adjusting for these increased charges.

Average Flat-Rate Local Charges for Residential Service in Urban Areas ($/month)

Charges	1990	1995	2002
Total	19.24	20.01	23.88
Subscriber Line Charge	3.55	3.54	5.64
Taxes, 911, and Other Charges	2.00	2.41	3.14
Total Less Mandated Charges	13.69	14.06	14.60

Source: FCC

Unbundling and the Benefits of Competition (Broadband)

- Unbundling and line sharing have not created meaningful competition in broadband services in the United States.

- Entrants, such as Covad, Rhythms, and Northpoint, have offered DSL service using the incumbents' copper loops, but despite their presence the share of DSL in total broadband lines in the U.S. has remained mired in the 30 percent range.

- All of these new DSL providers have been forced to enter bankruptcy, and only Covad remains, accounting for about 2 percent of U.S. broadband lines.

In the U.S. Competition in Broadband Has Come from Rival Platforms

- The meaningful broadband competition in the United States has come from platform competition between cable television companies and incumbent telephone companies.

- After several years of failing to make inroads against the cable companies, who account for nearly two-thirds of all broadband lines, the incumbent Bell telephone companies have recently reduced their monthly rates from $45-$50 to about $35 per month.

- This price competition did not originate with the entrants, who have largely failed, but rather emerged from head-to-head competition between cable companies' cable modem services and the incumbents' DSL services.

- Cable companies have responded with higher-speed services. Similar benefits of inter-network competition have occurred in U.S. mobile sector.

Unbundling Regime in U.S. and Productivity Growth

- Had entry through unbundled elements and resale provided benefits to consumers in the United States through lower prices or innovative new services, one would have expected the results to show up in surging output and productivity growth.

- Unfortunately, the entrants added to industry employment and made substantial investments in collocation facilities, switches, offices, and marketing centers. They did not, however, add to output.

- Labor productivity in wired telecommunications has actually declined since 1996. The U.S. Bureau of Labor Statistics reports that labor productivity grew by 5.5 percent per year between 1987 and 1996 in this sector, but labor productivity growth slowed to 4.9 percent per year.

- This decline occurred in a period in which labor productivity in the U.S. economy was soaring. Professor Dale Jorgenson of Harvard University has found that a large share of this increase was due to the IT revolution. Surprisingly, this revolution did not provide commensurate gains in the regulated telecom sector.