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Rural Telecommunications Subsidies Do Not Help

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The common justifications for government subsidies for rural telecommunications are to promote universal service and to promote economic development. While the case for subsidizing many rural telephone services is stronger than for more urban settings, it is still weak and subsidy implementation has likely been corrupted by rent seeking practices. Because of this and because many newer technologies tend to reduce rural disadvantages, a policy of limiting subsidies is likely efficient.

Communication is likely to be more valuable to rural customers but more costly to provide. Greater physical distances often limit contact between rural customers with each other and with urban centers. Since substitutes are more scarce, rural customers attach more value to phone calls and, all else equal, tend to make more of them. At the same time, rural areas tend to be more expensive to serve. A large portion of the costs stem from the physical wires connecting a customer with a telephone company central office. In more densely populated areas, those wires can be shorter and easier to maintain. Additionally, there are economies of scale and scope at a central office since switches are typically designed to serve more lines than are demanded in rural communities. All told, these additional costs can increase the costs of provision by 25 to 100 percent. Recent advances in wireless services and high capacity inter-office trunks have reduced these cost disadvantages.

Additionally, investments in telecommunications infrastructure are claimed to have multiplier effects benefiting the local economy. A more extensive local telecommunications network reduces the operating costs of businesses that make use of it. For true multiplier effects, the benefits must exceed firms' derived demand for telecommunications services. This could be true since telecommunications service is likely to generate network externalities. However, at current

penetration rates, these externalities are likely to be small.

Rural telecommunications services are already extensively subsidized through various federal and state "universal service" cross-subsidization programs, USDA's Rural Utility Service loan programs and a variety of state level programs. By the 1930s, only about 30 percent of all U.S. households had telephone service, with a smaller share in rural America. Congress enacted laws to foster household subscription to telephone service. This was largely accomplished with implicit taxes on business services and long distance services, used primarily by businesses and the wealthy, generating cross-subsidies intended to keep local residential rates below their costs. In addition, specific provisions channeled some of the "tax revenue" to subsidize rural, or "high cost" service. This basic structure remains today except that the taxes and subsidies have been made more explicit and the subsidy amount has grown to \$20 to 25 billion.

The largest cross-subsidy is from long distance usage to local telephone usage. Charges for interconnection to local telephone companies' networks to complete calls are kept artificially high. Regulators set these charges three to ten times the cost of the service to reduce local residential rates by 30 percent, which in turn increases long distance rates by 30 to 40 percent. When this system began, residential subscription rates were low, long distance was a luxury service and it probably encouraged subscription. Currently, over 95 percent of households have telephone service and long distance is much more widely used. Economists have estimated the current lower local rates have a negligible effect on subscription, but the higher long distance rates likely deter subscription (Larson, Makarewicz, and Monson, 1989, Kasserman, Mayo, and Flynn, 1990, Hausman, Tardiff, and Belefante, 1993, Mueller and Schmitt, 1996, Garbacz and Thompson, 1997, Wol-

lak, 1996, Erickson, Kasserman, and Mayo, 1998, and Hausman, 1998). Moreover, since rural customers tend to use more long distance service, this program probably deters more rural consumers from purchasing telecommunications services than it does urban consumers (Crandall and Waverman, 2000). The resistance of these policies to change in the face of this mounting evidence suggests that they serve some other objective, likely rent-seeking (Kasserman, Mayo and Pacey, 1993, and Teske, 1990).

In addition to subsidizing local service, state and federal programs provide additional specific subsidies to rural telephone service. The more rural states, such as Maine, Mississippi, and Montana have kept their rural telephone rates especially low by setting in-state toll rates especially high. Rates in more urban states, such as California, New York and Massachusetts are less distorted. Thus, the transfer from the urban areas to rural areas is larger in the more rural states. Crandall and Waverman (2000) estimate that only in the more urban states do rural telephone customers benefit from these cross-subsidy schemes, and then by only about \$10 to \$30 per year.

Since these systems are funded internally, they make clear that subsidies necessarily entail taxes, usually to the same customer but on different services. Unless the scheme is meeting a policy objective that the market is not able to address (e.g., externalities), such a scheme makes the average customer worse off. In this case, since the taxed service is more elastically demanded than the subsidized service, it makes most consumers worse off. Policy makers may be willing to accept costs on the average consumer if doing so makes certain target groups better off (i.e., low income, children, the ill, or the rural). The larger cross-subsidy schemes addressed above generally do not, but others might (e.g., targeted subsidies to the low-income, schools or telemedicine).

More targeted "Universal Service" programs have been introduced to help low-income consumers, high cost providers, schools and libraries, and rural health. They tend to disproportionately favor rural consumers. The amount of support for these programs currently is roughly \$0.5 billion for low income, \$1.8 billion for high cost, and \$2.25 billion for schools and libraries. The rural health program is new and has few expenses, but is expected to reach \$0.4 billion per year. In addition to these programs, the USDA's Rural Utility Service operates the Rural Telephone Bank that offers subsidized loans to rural telecommunications firms. Since rural areas are disproportionately low income, they receive more of these payments on a per capita basis than other areas. Rural areas receive about 80 percent of the high cost fund and will receive

nearly all of the rural health allocation. Through these programs, rural areas receive slightly more \$100 per household per year while urban areas receive just under \$20 per household per year.

Much of this support may not actually flow to the consumers. For example, since providers with higher costs are able to claim more of the high cost funds, the incentive to maintain costs is reduced. Moreover, the payment goes to the provider and not necessarily to the end user. Customer decisions are distorted in that they may opt for a subsidized high cost service rather than more efficiently provided service from a substitute provider. Unsubsidized newer technologies, such as wireless or that use cable television or power lines that may be less costly, would not be chosen. While these programs are expanding to include more technology options, they are typically not neutral with respect to providers or technologies. A possible solution would have the subsidies operate like food stamps—that is, "phone stamps"—so that consumers could take them to whoever provides the preferred service.

The existing subsidy programs already favor rural areas. Those that succeed create large distortions to transfer modest amounts to rural areas. Still, the stated policy objective, universal service, was essentially achieved decades ago. These programs likely are the products of rent-seeking activities that provide few benefits to consumers but transfer huge rents to a few firms. Most of these programs can no longer be justified on a cost-benefit basis and would not be likely survive in a truly competitive market. Current efforts to encourage competition at all stages of the telecommunications industry are likely to make most consumers, even rural consumers, better off. Newer services, such as Internet access and mobile services are more scalable and so better suited to rural deployment. More consumers, even those in rural areas, have adopted these newer technologies more quickly without subsidies than any service with subsidies (Greenstein and Downes, 1999). Expanding these subsidy programs to cover these new services would likely simply distort markets and provide more rents to telecommunications providers. Rolling back the market distortions created by these policy interventions might be hoped for. However, simply not extending them to newer technologies should improve consumer welfare. In this case, they will continue to distort, and competitively disadvantage, an increasingly smaller portion of the telecommunications market.

A few points made above have implications for telecommunications policy at the state level. First, the economic justifications for policy intervention into telecommunications markets are weak. Second, pro-

posed changes in policy should consider the current web of state and federal targeted and untargeted policies. Third, current telecommunications policy was developed generations ago without reference to current demand, costs or new technologies. Fourth, these policies likely remain because they benefit a few rent-seekers but are no longer helping rural customers and may be harming them. Fifth, new communications technologies have diffused broadly and quickly, even in rural areas, without (and sometimes despite) policy intervention. The preferred policy implied by these concerns is usually described as "benign neglect."

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