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Public Interest Comment on
Biennial Review of Telecommunications Regulations[1]

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The Regulatory Studies Program (RSP) of the Mercatus Center at George Mason University is dedicated to advancing knowledge of the impact of regulation on society. As part of its mission, RSP conducts careful and independent analyses employing contemporary economic scholarship to assess rulemaking proposals from the perspective of the public interest. Thus, this comment on the Federal Communications Commission's 2008 biennial review of telecommunications regulation[2] does not represent the views of any particular affected party or special interest group, but is designed to provide information that will help ensure a holistic and effective review of FCC rulemaking.

As part of its 2008 biennial review of telecommunications regulations, the FCC is evaluating regulations "that apply to the operations or activities of any provider of telecommunications service" to determine whether such regulation ought to be modified or repealed. The FCC seeks comment on regulations administered by the Wireline Competition Bureau pertaining to the Universal Service Fund. This comment addresses these regulations, which are mostly in parts 36, 54, and 69 of Title 47 of the Code of Federal Regulations (CFR).

Scholars at the Mercatus Center at George Mason University have performed extensive research on the costs and outcomes of the Universal Service Fund.[3] We have also submitted numerous

[1] Prepared by Jerry Ellig, senior research fellow, and Gabriel Okolski, graduate fellow. This comment is one in a series of Public Interest Comments from Mercatus Center's Regulatory Studies Program and does not represent an official position of George Mason University.
[2] Public Notice, CG Docket No. 08-177, EB Docket No.08-178, IB Docket No. 08-179, ET Docket No. 08-180, PS Docket No. 08-181, WT Docket No. 08-182, WC Docket No. 08-183; FCC No. 08-201 (released September 4, 2008) [Hereinafter "Biennial Review Public Notice"].
[3] Among others, see Jerry Ellig, *Universal Service Reform: Start With Accountability*, MERCATUS ON POLICY (July 2008); Jerry Ellig & Joseph Rotondi, *Outcomes and Alternatives for Universal Telecommunications Services: A Case Study of Texas*, 12 TEXAS REVIEW OF LAW & POLITICS 1 (2007); Jerry Ellig, *Costs and Consequences of Federal Telecommunications and Broadband Regulations*, 58 FEDERAL COMMUNICATIONS LAW JOURNAL 17 (Feb. 2006); Jerry Ellig and James Taylor, *The Irony of Transparency: Unintended Consequences of Wireless Truth-in-Billing*. 19 LOYOLA CONSUMER LAW REVIEW 43 (2006).

comments in FCC proceedings on the management and structure of universal service programs.[4] To assist the commission in its biennial review, we provide general suggestions on the manner in which commission staff should go about evaluating universal service regulations, and we provide citations to significant scholarly research on the costs and outcomes of the universal service programs.

Ideally, the review should assess whether the regulations are achieving specific outcomes and at what cost. Only by comparing outcomes and costs can the commission assess whether the programs are achieving their statutory goals while promoting overall consumer welfare.

Universal service regulations do not just cost money directly; they also alter prices and behavior in ways that create costs and benefits for society. An effective review of the current regulations must consider not only charges on telecommunications providers, but also how those charges will be passed on to consumers. Assessing the effects of these charges on consumer welfare requires an assessment of changes in consumer behavior induced by price changes caused by the contribution mechanism.

Consistent with past comments from Mercatus Center scholars on universal service, we suggest that the biennial review should:

- Assess whether the universal service programs have achieved specific outcome-based performance goals.
- Examine all applicable studies and data to observe whether the regulations are actually causing the observed results.
- Evaluate all social costs associated with universal service programs, not just the obvious accounting costs.
- Modify or repeal aspects of the universal service programs that do not achieve the intended results at an acceptable cost.

I. Introduction

The FCC's public notice regarding the 2008 biennial review indicated that the Wireline Competition Bureau would evaluate the rules that govern universal service.[5] Earlier this year, the FCC proposed reforms of the largest universal service program, the High Cost Fund, including reverse auctions, contribution caps, expanded support for broadband Internet service, and

[4] Jerry Ellig and Andrew Perraut, *Public Interest Comment on High Cost Universal Service Support*, WC Docket No. 05-337 (March 27, 2008); Jerry Ellig and Andrew Perraut, *Public Interest Ex Parte Comment on Universal Service Contribution Methodology*, WC Docket No. 06-122 (Nov. 2, 2007); Maurice McTigue and Jerry Ellig, *Public Interest Comment on Performance Measures for Universal Service Programs*, WC Docket 05-195 (October 17, 2005); Maurice McTigue and Jerry Ellig, *Ex Parte Comment on Performance Measures for Universal Service Programs*, WC Docket 05-195 (Jan. 26, 2006).
[5] Biennial Review Public Notice at 7-9.

others.[6] While commission staff will no doubt consider these recent developments, we believe it is essential that the current body of regulation be evaluated based on outcomes and costs.

Outcome-based analysis that considers all costs and benefits is a well-established practice in the creation and retrospective review of regulation. The economic basis for such a review is that society should only pursue policies that advance clear public interests, and that if the costs of a certain policy exceed the benefits, then the regulation enacting that policy should be modified or repealed and a different option whose benefits exceed costs should be selected.[7] Without a complete view of these costs and benefits, regulations may fail to accomplish their goals, accomplish them in an inordinately costly manner, or perhaps even do more harm than good.

II. Evaluating the Outcomes of Universal Service Programs

The 1996 Telecommunications Act states that federal universal service programs should provide "quality services" at "just, reasonable, and affordable rates;" provide access to "advanced telecommunication and information services" in all regions; and provide low-income and rural and high-cost area customers with services that are "reasonably comparable to those services provided in urban areas" at rates "reasonably comparable" to those for similar services in other areas.[8] Therefore, the universal service regulations in CFR Title 47 ought to be evaluated on how well they are achieving these intended outcomes.

The language of the Telecommunications Act leaves some ambiguity as to how to interpret numerous terms, such as "reasonably comparable," and therefore how to establish whether the regulations pertaining to universal service are achieving the goals set forth in the act. The FCC should specifically define such terms to provide an objective metric for evaluating the performance of the regulations under review. The commission staff will then have a clear set of outcomes against which to compare the regulations under review.

Outcome-based analysis is a tried-and-true vehicle for measuring the performance of a program or set of regulations. In a June 2008 report on FCC's performance management and oversight of the high-cost universal service program, the Government Accountability Office (GAO) highlighted its continued support for outlining clear performance standards:

> In particular, prior GAO reports indicate that best practices include developing goals and measures that address important dimensions of program performance, developing intermediate goals and measures, and developing goals to address mission-critical management problems. Yet, the FCC has not established long-term or intermediate performance goals and measures. Additionally, OMB noted that performance measures should reflect desired outcomes, which describe the intended results of the program. Yet,

[6] Notice of Proposed Rulemaking, WC Docket No. 05-337, FCC 08-22 (released January 29, 2008); Notice of Proposed Rulemaking, WC Docket No. 05-337, FCC 08-4 (released January 29, 2008); Notice of Proposed Rulemaking, WC Docket No. 05-337, FCC 08-5 (released January 29, 2008).
[7] W. Kip Viscusi, Joseph E. Harrington, Jr., and John M. Vernon, ECONOMICS OF REGULATION AND ANTITRUST, FOURTH EDITION, 30 (2005).
[8] Sec. 254(b).

> FCC data collection efforts focus on program outputs, such as the number of requests for support payments, which describe the level of activity.[9]

Defining and measuring outcomes are thus critical parts of performing an effective regulatory review—they help ensure that all money spent by the universal service program provides some sort of public benefit. A meaningful assessment of outcomes does not end with simply with defining goals, however; it requires analysis of causation. It is not enough to simply correlate a positive trend between program creation or expenditures and improvements in outcomes; the review must establish to what extent the regulation has actually caused the observed outcomes to occur.

A. Defining Outcome Measures

The universal service program has four parts: high-cost support to rural, insular, and other high-cost areas; low-income support through the Link-Up and Lifeline programs; the schools and libraries program; and the rural health-care program.

1. High-Cost and Low-Income Support

In outlining guiding principles for the administration of the universal service programs, the Telecommunications Act of 1996 specifies that subscribers in rural and high-cost areas ought to have access to telecommunications services "that are reasonably comparable to those services provided in urban areas that are reasonably comparable to rates charged for similar service in urban areas."[10] Furthemore, the low-income programs are administered under the act's guidance to provide universal access to telecommunications services at "just, reasonable, and affordable rates."[11] Therefore, the outcomes of both of these initiatives ought to be measured based on availability and price.

a. Availability

An availability measure, such as number and percent of homes where the service is available, documents how many households in a given area are able to subscribe to the applicable services if they so choose. The concept of measuring availability should not be a strange one to the FCC. The FCC measures the deployment of broadband Internet as the percentage of cable and telephone customers who have access to high speed service[12] and also releases an annual report that provides maps that indicate where wireless service is available to customers.[13] For the high-cost program, however, the FCC counts subscribers and subscribership rates, rather than directly

[9] U.S. Government Accountability Office, TELECOMMUNICATIONS: FCC NEEDS TO IMPROVE PERFORMANCE MANAGEMENT AND STRENGTHEN OVERSIGHT OF THE HIGH-COST PROGRAM (June 2008) at 5.
[10] Sec. 254(b)(3)
[11] Sec. 254(b)(1)
[12] Federal Communications Commission, HIGH-SPEED SERVICES FOR INTERNET ACCESS: STATUS AS OF JUNE 30, 2007 (2008) at tbl. 14.
[13] Federal Communications Commission, ANNUAL REPORT AND ANALYSIS OF COMPETITIVE MARKET CONDITIONS WITH RESPECT TO COMMERCIAL MOBILE SERVICES 134-184 (January 28, 2008).

measuring availability.[14] For the low-income program, the FCC measures the number of subscribers receiving subsidies.[15]

While subscribership may sometimes be a reasonable proxy for availability, this metric may be inaccurate for areas where households place less value on wireline service. For example, an area may include a large number of vacation homes whose owners opt not to pay for wired connectivity because they can use cell phones on short stays. Some consumers with access to wireline services may choose substitutes upon which they place more value, such as mobile phone service or Voice Over Internet Protocol. Furthermore, some potential low-income or rural subscribers may have access to wireline service but simply choose not to subscribe due to the price. In this case, a subscribership measure will underestimate the number of households for which service is available.

For these reasons, FCC staff should measure the actual availability of service, rather than subscribership.

b. Price

During the regulatory review process, FCC staff will need to determine whether the regulations governing universal service are achieving "just, reasonable, and affordable rates" and whether they are providing service to high-cost areas at rates that are "reasonably comparable" to those in urban areas.

i. High-Cost Program

To determine whether rural rates are reasonably comparable to urban rates, the FCC needs to measure rates. A prima facie evaluation may call for comparison of rates in rural areas to rates in urban areas. The FCC would need to decide how close the rural rate must be to the urban rate to qualify as reasonably comparable. Only after defining this measure could the FCC determine whether the universal service program has achieved the goal of making rural rates reasonably comparable to urban rates.

A simple rural/urban rate comparison might not be a perfect measure of comparability because urban and rural incomes can differ significantly. A more accurate measure might be to compare the rural price/income ratio to the urban price/income ratio. Whether the additional accuracy introduced by using the ratio of rates to income is worth the additional difficulty is, of course, an open question.

For wireline telephone service, the FCC can no longer presume that longstanding state-regulated rates in rural areas are "reasonably comparable" to urban rates. Mercatus Center researchers

[14] Federal Communications Commission, *In the Matter of Comprehensive Review of the Universal Service Fund Management, Administration, and Oversight*, REPORT AND ORDER (Adopted Aug. 22, 2007), at para. 55. [Hereinafter "USF Management Report and Order"]
[15] Id. at para. 51.

recently completed a study of universal service in the state of Texas that illustrates this point.[16] In Texas, regulation historically kept most rural phone rates for basic local service below urban rates and below economic measures of long-run cost. A 2007 evaluation by the Texas Public Utility Commission (PUC) revealed that all basic local residential rates of the largest incumbent, AT&T, were below the national average urban rate of $14.53.[17] No basic local rates of the four largest incumbents exceeded the national average urban rate by more than $1.50.[18] Only six of the fifty-four smaller incumbents had any basic local residential rates exceeding the national average urban rate.[19] Basic local residential rates in Texas had not changed since 2000 or earlier. The Texas Public Utility Commission found that state subsidies kept rural rates reasonable—but also hinted that higher rates for basic local telecommunications service might also be considered reasonable. The PUC noted, "The preservation of existing BLTS [basic local telephone service] rates, some of which have been in effect for decades, does not necessarily mean that existing rates are still reasonable."[20] In April 2008, the Texas PUC approved a settlement that reduces universal service subsidies to the four largest carriers and allows them to raise rates on subsidized lines by a few dollars per month.[21]

As the Texas example demonstrates, the FCC cannot presume that universal service subsidies accomplish their statutory objectives simply because they enable phone companies in rural areas to charge regulated rates that are lower than they would be in the absence of subsidies.[22] The FCC needs to determine whether the regulated local rates in rural areas are reasonably comparable to urban rates.

ii. Low-Income Program

To determine rate reasonableness for the low-income program, the FCC might choose to examine expenditures as a percentage of income. For example, low-income programs may be intended to allow low-income families to spend the same percentage of their income on wireline phone service as a middle-class family pays for the same level of service. Statistics on telephone service expenditures by income level are available from the Bureau of Labor Statistics' survey

[16] Ellig & Rotondi, *supra* note 3.
[17] Texas Public Utility Commission, REVIEW AND EVALUATION OF THE TEXAS UNIVERSAL SERVICE FUND PURSUANT TO PURA SECTION 56.029 28 (2007) at tbl.. 6.
[18] *Id.*
[19] *Id.* at tbl. 7.
[20] Texas PUC, *supra* note 17, at 24.
[21] Public Utility Commission of Texas, Docket No. 34723, Motion for Approval of the Unanimous Settlement Agreement (April 8, 2008). (Accessible through the PUC's electronic Interchange filing retrieval system.)
[22] A traditional justification for keeping rural rates below urban rates is that rural customers have fewer people in their local calling areas, and hence they are more likely to pay substantial long-distance charges. Lower local rates help compensate for the higher long-distance charges. Long-distance service, however, is priced much differently than it was when current local rate structures were put in place. All-distance plans available from both wireline and wireless carriers offer long-distance calling at zero incremental cost per call. Even when purchased separately, long-distance is now widely available for a few cents per minute. Clearly, the size of the long-distance penalty paid by rural subscribers has fallen significantly. Hence, it is much more difficult to justify the idea of keeping rural rates below urban rates to compensate for rural residents' higher long-distance costs.

on household consumption expenditures and the PNR Bill Harvesting Survey.[23] Statistics on household income are available from the U.S. Census Bureau.

2. Schools and Libraries Program

Outcome measures for this program should indicate how it has increased Internet access for schools and libraries. Unlike performance measures for household universal service programs, however, outcome measures for schools and libraries should go beyond this measure. In its 2005 review of the E-rate program, the Government Accountability Office emphasized the importance of achieving educational outcomes: "A basic policy issue associated with the E-rate [schools and libraries] program involves assessing the extent to which the billions of dollars of support for telecommunications services are providing the sought-after return on investment: improvement in the quality of education."[24] Therefore, after evaluating the E-rate program's effect on Internet access at schools and libraries, the FCC should also specify educational performance outcomes (such as improvements in test scores) and determine whether increased Internet access influences educational performance.

Unfortunately, independent studies on this topic are sparse. The National Center for Education Statistics reports that Internet access in schools has increased steadily since 1994, resulting in 99 percent of schools having access; however, the center provides no concrete analysis demonstrating that the program caused this increase.[25] Another study by the Urban Institute indicated that Internet connectivity for schools and libraries had increased after the schools and libraries program was enacted. The same study showed that connectivity was also increasing before that time.[26]

In its 2007 *Report and Order* on management of the universal service fund, the FCC noted that nearly 100 percent of public schools are connected to the Internet and proposed to analyze more detailed data on the different speeds and types of connections.[27] However, the order declined to assess the E-rate program's contribution to this connectivity, stating that "the Commission is not in a position to evaluate the impact of E-rate funds on connectivity as compared to other funding sources."[28] Similarly, the Commission declined to evaluate the effect of Internet connectivity on learning because it would be "difficult."[29]

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[23] See, e.g., calculations in Robert W. Crandall and Leonard Waverman, WHO PAYS FOR UNIVERSAL SERVICE? (2000): 38; 47-49.
[24] U.S. Government Accountability Office, TELECOMMUNICATIONS: GREATER INVOLVEMENT NEEDED BY THE FCC IN THE MANAGEMENT AND OVERSIGHT OF THE E-RATE PROGRAM (February 2005) at 26.
[25] Anne Cattagni and Elizabeth Farris Westat, INTERNET ACCESS IN U.S. PUBLIC SCHOOLS AND CLASSROOMS: 1994-2000, STATISTICS IN BRIEF, National Center for Education Statistics (May 2001); Catrina Williams, INTERNET ACCESS IN U.S. PUBLIC SCHOOLS AND CLASSROOMS: 1994-99, STATS IN BRIEF, National Center for Education Statistics (Feb. 2000).
[26] Michael J. Puma et. al., *The Integrated Studies of Educational Technology: A Formative Evaluation of the E-Rate Program*, draft study, Urban Institute (Oct. 2002), available at http://www.urban.org/UploadedPDF/410579_ERateFinalReport.pdf.
[27] USF Management Report and Order, *supra* note 14, at paras. 41-43.
[28] Id. at para. 39.
[29] Id.

Without analyzing these questions, the FCC simply cannot determine whether the schools and libraries program is accomplishing its goals. If the FCC does not know how the subsidies have affected Internet connectivity, then it cannot know whether, or to what extent, the subsidies are still necessary to keep schools and libraries online. And if the FCC does not know whether Internet connectivity improves educational outcomes, then the FCC cannot know whether the E-rate program produces tangible outcomes that citizens value.

3. Rural Health-Care Program

The access outcomes for the rural health-care program, which subsidizes telecommunications service for rural health-care facilities, would be similar to those outlined above for the schools and libraries program: the percentage of rural health-care facilities that have access to specified telecommunications services. As with the schools and libraries program, however, access is just a means to an end. The ultimate outcomes of interest are health outcomes. To what extent has improved access to telecommunications allowed rural health providers to improve health outcomes and reduce the cost of health care? This is the question that must be answered to determine whether the rural health-care subsidy program needs to be revised.

B. Causation Analysis

In conducting the regulatory review, it is not enough to identify positive trends in the outcomes. The FCC staff should assess how and to what extent the applicable regulations caused the observed outcomes. This is exactly the point that the Government Accountability Office made in its 2005 assessment of the schools and libraries program:

> For fiscal years 2000 through 2002, FCC's goals focused on achieving certain percentage levels of Internet access for schools, public school instructional classrooms, and libraries. However, the data that FCC used to report on its progress… did not isolate the impact of E-rate funding from other sources of funding, such as state and local government… Consequently, a fundamental performance question that remains unanswered is how much of the increase in public schools' access to the Internet can be attributed to the E-rate program.[30]

Analysis of causality is difficult and requires research, but it is not impossible. For a model, the FCC need look no further than the substantial body of academic research that examines the effects of universal service subsidies on telephone subscribership.

Based on the best data available, which seem to indicate that low-income households' demand for telephone service is more price sensitive than that of other households, Mercatus Center scholars calculated that the Lifeline program in Texas increased subscribership by about 142,000 subscribers—a figure equal to 24.4 percent of all Lifeline households, or 1.1 percent of all Texas households.[31] Several other studies have found that expenditures on low-income programs do not greatly affect subscribership. One such study found that a 10 percent increase in expenditures

[30] U.S. Government Accountability Office, *supra* note 9, at 5.
[31] Ellig and Rotondi, *supra* note 3, at 31.

would lead to less than a 0.1 percent increase in the number of households with telephones.[32] Another study indicated that only the Lifeline program was responsible for most of the subscribership increase, while the Link-Up program did not contribute at all.[33] Yet another study found that low-income programs have no effect on subscribership at all.[34]

Information on the programs' outcomes can be combined with cost data to evaluate cost effectiveness. Most cost-effectiveness analyses have focused on the high-cost subsidies. Research shows that increasing subscribership through high-cost support is an expensive proposition, with the cost of adding one subscriber through loop support costing at least $11,000 in 2000, up from $3,350 in 1990.[35] Adding an additional subscriber through local switching support was $5,155 in 2000, up from approximately $2,000 ten years prior.[36] This cost is substantially higher than the $666 estimated by another study for 1985–93.[37]

As we have noted, subscribership is not a perfect measure of the effectiveness of universal service programs in achieving their statutory goals. We mention these subscribership studies for two reasons. First, they provide a useful template for analyzing the effects of universal service subsidies on other variables, such as availability and rates. Second, if the FCC decides that subscribership is a good enough outcome measure, then the results of these studies should be directly useful in evaluating whether the programs have accomplished that outcome.

III. Evaluating Costs of Universal Service Programs

The Federal-State Joint Board on Universal Service has noted that further growth in the universal service fund may not be sustainable and could in fact undermine the universal service goals of the 1996 Telecommunications Act:

> Any possible benefit anticipated from increased universal service fund (USF) distributions must be weighed against the added burden on consumers of telecommunications services. Larger USF contributions increase the risk that telecommunications services will become unaffordable for some, or even a substantial number, of consumers. As the courts have noted, excessive subsidization arguably may affect the affordability of telecommunications services, thus violating one of the principles in Section 254. We note widespread concern that further increases in the size of the fund under existing collection methodologies would be detrimental to both customers and carriers alike.[38]

[32] Christopher Garbacz and Herbert G. Thompson, *Assessing the Impact of FCC Lifeline and Link-Up Programs on Telephone Penetration*, 11 J. REG. ECON. 67,77 (1997).
[33] Christopher Garbacz and Herbert G. Thompson, *Universal Telecommunications Services: A World Perspective*, INFO. ECON. & POLICY (2005) at 508.
[34] Crandall and Waverman, supra note 23, at 94-104.
[35] Daniel J. Ryan, *Universal Telephone Service and Rural America*, unpublished manuscript (April 30, 2004), 18-19.
[36] Id.
[37] R.C. Eriksson, D.L. Kaserman, and J.W. Mayo, *Targeted and Untargeted Subsidy Schemes: Evidence from Post-Divestiture Efforts to Promote Universal Service*, 41 J. LAW & ECON., 477-502 (1998). This study uses data only for the Bell telephone companies, which received a small portion of total high-cost support and may not be typical.
[38] Notice of Proposed Rulemaking, WC Docket No. 05-337, FCC 08-22 (released January 29, 2008) at para. 24.

Therefore, any worthwhile review of the effect of universal service programs should weigh the programs' outcomes against their costs.

Such an evaluation of costs should encompass the total social cost of the regulations, not just the monetary cost. The monetary cost measures the outlays telecommunications firms and consumers have to make to fund the universal service programs. But these monetary costs do not reflect all of the costs. Universal service contributions increase the price of telecommunications services, which in turn may induce consumers to use less of these services. The value consumers forego by using less service, plus the operating profits companies lose on the service consumers don't buy, is part of the total social cost of the universal service programs.

While universal service programs lower prices for some consumers, these rates are facilitated through contributions that ultimately get passed on to customers in the form of universal service charges on their telephone bills. Telecommunications firms' revenue often varies with the amount of service that customers purchase. In its current structure, the contribution is essentially paid as a usage-based tax that has the potential to influence usage and subscribership. Section 54.706 of CFR Title 47 establishes that certain telecommunication providers are required to contribute to the universal service fund "on the basis of its projected collected interstate and international end-user telecommunications revenues, net of projected revenues."[39] Since this provision requires telecommunications providers to contribute based on their total revenue, companies tend to pass their universal service costs on consumers based on revenue. Universal service charges on telephone bills can distort consumer decisions by altering the prices of various telecommunications services.

The change in consumer behavior due to the increased charges from universal service depends on the "elasticity of demand," which measures how consumers respond to changes in price. If demand is elastic, an increase in price generates a large reduction in the amount purchased; if demand is inelastic, a price increase generates a small reduction in the amount purchased. Most studies have indicated that demand for wireline service in America is virtually inelastic; virtually all customers will continue to purchase the service despite an increase in price.[40] Sections 69.131 and 69.158 of title 47 permit local exchange carriers to recover their universal service contributions through per-line charges. But in a market where demand is relatively inelastic, it makes little difference whether universal service charges are based on usage or on numbers.[41]

Long-distance communication service, whose universal service charges are not levied on customers as a numbers-based fee, is affected quite differently than local service. Studies find that compared to local service, consumer demand for long-distance service is relatively elastic. The elasticity of demand for such service is estimated at -0.7, meaning that a 1 percent increase in the price of long-distance service leads to a 0.7 percent decrease in minutes use.[42] Thus a

[39] Sec. 54.706 (b)
[40] Crandall and Waverman, *supra* note 23, at 47.
[41] Sec. 69.131; Sec. 69.158
[42] A range of estimates exists, but -0.7 is the consensus view. *See* Jerry Hausman & Howard Shelanski, *Economic Welfare and Telecommunications Regulation: The E-Rate Policy for Universal-Service*

usage-based charge on long distance is likely to have a more severe impact on that service than on local service. While most long-distance providers now provide unlimited packages, if many of the most price-sensitive customers still purchase long distance by the minute or in buckets of minutes, it is still accurate to model universal service assessments on long distance as an increase in the per-minute price.

The elasticity of demand for wireless service varies, depending on whether one examines wireless subscription or wireless minutes. The elasticity of demand for wireless subscription is much lower than the elasticity of demand for wireless minutes. Most studies estimate an elasticity of between -0.43 and -0.71 for the demand for wireless subscription.[43] Studies place the elasticity of demand for wireless minutes between -1.12 and -1.29,[44] with some figures as high as -3.62 when international data are used.[45]

Thus, in addition to evaluating the costs of the current regulations covering universal service as the accounting costs required to administer the program, FCC staff should consider the loss in potential revenue that results from decreased subscribership along with the value consumers lose because they use less wireless and long-distance service. While the Wireline Competition Bureau has discussed the state of subscribership in reports following previous biennial reviews, it has stopped short of evaluating the potential subscribership that is foregone due to universal service contributions.[46] Such estimates of hidden costs are important considerations in understanding the full scope of the burdens imposed by a regulation—as the Federal-State Joint Board on Universal Service acknowledged in the paragraph quoted above.

Economic research shows that the loss in consumer welfare from the current universal service contribution mechanism is quite substantial. In a groundbreaking study assessing the effects of universal service charges on long-distance customers, Jerry Hausman estimated a deadweight loss between 65 and 79 cents for every dollar raised by the Universal Service Fund.[47] In a 2000

Subsidies, 16 YALE J. ON REG. 19, 36–37 (1999*); See also* Michael H. Riordan, *Universal Residential Telephone Service*, in 1 HANDBOOK OF TELECOMMUNICATIONS ECONOMICS 423, 431 (Martin E. Cave et al.eds.) (2002).

[43] *See* Jerry Hausman, *Cellular Telephone, New Products, and the CPI*, J. BUSINESS & ECON. STAT. 188, 191 (1999) (estimating a demand elasticity of approximately -0.5 with 1988-1993 data); Jerry Hausman, *Efficiency Effects on the U.S. Economy from Wireless Taxation*, 53 NATIONAL TAX JOURNAL. 733, 738 (2000) (estimating a demand elasticity of -0.71); Mark Rodini et al., *Going Mobile: Substitutability Between Fixed and Mobile Access*, 27 TELECOMMUNICATIONS POLICY 457, 470 (2003) (estimating an elasticity of -.43 with respect to the monthly access charge and an overall price elasticity of demand of -0.6 with 2000–01 data); Christopher Garbacz & Herbert G. Thompson, Jr., *Universal Telecommunication Services: A World Perspective*, INFO.ECON. & POLICY 495 (2005), tbl. 5 (estimating an elasticity of -0.45).

[44] *See* J. Gregory Sidak, *Is State Taxation Of The Wireless Industry Counterproductive?* Criterion Econ. L.L.C., 19 (2003), www.criterioneconomics.com/docs/sidak_pacific_research.pdf (using 1999–2001 data).

[45] *See* Thomas W. Hazlett & Roberto E. Munoz, *A Welfare Analysis of Spectrum Allocation Policies*, AEI Brookings Joint Center For Regulatory Studies, related pub'n 04-18, *available at* http://www.aeibrookings.org/admin/authorpdfs/page.php?id=1024; *See also*, Gary Madden & Grant Coble-Neal, *Economic Determinants of Global Mobile Telephony Growth*, 16 Info. ECON. & POL'Y 519, 531 (2004).

[46] Federal Communications Commission Wireline Competition Bureau, 2006 BIENNIAL REGULATORY REVIEW STAFF REPORT 38, 39(February 14, 2007); Federal Communications Commission Wireline Competition Bureau, 2004 BIENNIAL REGULATORY REVIEW STAFF REPORT 36, 37(January 5, 2005).

[47] Jerry Hausman, *Taxation by Telecommunications Regulation*, 12 TAX POLICY THE ECONOMY 29, 31

study, Hausman estimated that every dollar raised by universal service assessments on wireless service reduced producer and consumer welfare by 53 cents on average.[48]

A 2006 Mercatus Center study estimated that $2.7 billion in universal service charges on interstate long-distance in 2002 cost producers and consumers $1.16 billion in forgone welfare.[49] The charges generated a welfare loss of $978 million for wireless users.[50] Clearly, the magnitude of these losses suggests that they deserve careful consideration in the biennial review.

III. Conclusion

As part of its 2008 biennial review, the FCC is soliciting comments regarding specific regulations that ought to be modified or repealed. While our comments apply generally to the regulations applicable to the Universal Service Fund, mostly encompassed in Part 54 of CFR Title 47, we are not recommending specific changes to rules. Before determining what kinds of rule changes might promote the public interest, the FCC needs to know what outcomes the existing universal service programs have generated, are likely to generate in the future, and at what cost. We hope our comments will assist FCC staff in conducting the factual analysis necessary to inform commission decisions in the biennial review.

Specifically, in its review of the regulations, the FCC should:

- Assess how the universal service programs have achieved specific outcome-based performance goals.

- Examine all applicable studies and data to observe whether the regulations are actually causing the observed results.

- Evaluate all social costs associated with universal service programs, not just the obvious accounting costs.

- Modify or repeal aspects of the universal service programs that do not achieve the intended results at an acceptable cost.

(James M. Poterba ed., 1998).
[48] Jerry Hausman (2000), *supra* note 43, at 738 (estimating a demand elasticity of -0.71).
[49] Ellig (2006), *supra* note 3, at tbl. 2.
[50] Id.