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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of	)	
	)	
Access Charge Reform	)	CC Docket No. 96-262
	)	
Price Cap Performance Review for Local Exchange Carriers	)	CC Docket No. 94-1
	)	
Low Volume Long Distance Users	)	CC Docket No. 99-249
	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45

COMMENTS OF THE ALLIANCE FOR PUBLIC TECHNOLOGY, THE COMMUNICATIONS WORKERS OF AMERICA AND THE NATIONAL ASSOCIATION OF DEVELOPMENT ORGANIZATIONS

I. INTRODUCTION

The Alliance for Public Technology ("APT"), the Communications Workers of America ("CWA") and the National Association of Development Organizations ("NADO")[1] submit these

[1] APT, CWA and NADO ("joint commenters") constituents include millions of low income and working families, rural residents, senior citizens, people with disabilities, small business owners, minorities, and other consumers who desire affordable, quality telecommunications services no matter their income level or place of residence. The Alliance for Public Technology (APT) is a tax-exempt advocacy organization founded in 1988 to promote affordable access to telecommunications and information by all consumers. Almost 300 non-profit groups and individuals comprise APT's membership, which supports the organization's mission

> to make available as far as possible, to all people of the United States, regardless of race, color, national origin, income, residence in rural or urban area, or disability, high capacity two-way communications networks capable of enabling users to originate and receive affordable and accessible high quality voice, data, graphics, video and other types of telecommunications services.

The Communications Workers of America is the largest telecommunications union in North America. Representing 630,000 workers, CWA is a party to more than 1000 collective bargaining agreements with public and private employers engaged in telecommunications, printing and news media, health care, cable television, general manufacturing, electronics, and gas and electric utilities, among other fields.

The National Association of Development Organizations is a public interest group founded in 1967 to provide training, information and representation for regional development organizations in small metropolitan and

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joint comments in response to the Commission's Notice of Proposed Rulemaking ("NPRM") in the above referenced dockets.[2] The NPRM seeks comments on a proposal submitted by the Coalition for Affordable Local and Long Distance Service ("CALLS") on July 29, 1999 to reform interstate access charges and universal service. The five-year plan would cover those price cap incumbent local exchange carriers ("ILECs") that elect to participate in the negotiated compromise developed by Coalition members AT&T, Bell Atlantic, BellSouth, GTE, SBC and Sprint. CALLS urges the Commission to adopt the plan in its entirety and to implement it by January, 2000. The Commission now asks whether it should grant CALLS' request. As explained below, joint commenters support the proposal and recommend that the Commission adopt it, but only after ensuring that all consumers, regardless of their long distance calling volumes or patterns, will receive lower long distance toll rates from interexchange carriers' non-discriminatory pass-through of access charge reductions.

While the instant NPRM may elicit different approaches or improvements to the CALLS plan, at present, joint commenters believe the proposed plan offers a viable means of stabilizing universal service during the transition to competitively neutral, explicit universal service support mechanisms. Admittedly, the CALLS plan is not a perfect solution, but its creation through arms' length negotiation between long distance carriers and incumbent local phone companies that are more often opponents than proponents in any given matter, is an encouraging development in a rapidly changing telecommunications marketplace.

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rural communities. It is the largest and leading advocate for a regional approach to community and economic development, including deployment of telecommunications services. NADO's regional development organizations collectively represent about one-third of the nation's population. Therefore, the association's primary goal is to assure all rural citizens have employment opportunities, public services, and a quality of life comparable to other Americans.

[2] Notice of Proposed Rulemaking, FCC 99-235, Sept. 15, 1999.

As new packet switched networks emerge to enable users to avoid long distance charges containing the subsidies now implicit in per minute access charges, the urgent need for reform becomes clearer. Without prompt action, the inevitable collapse of the current access charge regime will undermine universal service funding and threaten the nation's commitment to affordable quality telephone service for everyone. And, unless sustainable universal service support exists for basic telephone service, joint commenters fear that mechanisms cannot develop to ensure that low-income, working, elderly, disabled, and rural residents gain access to advanced telecommunications networks that can improve their education, health care, economic development, and other important aspects of their lives.

II. THE CALLS PROPOSAL COULD BENEFIT ALL CONSUMERS

CALLS has offered a plan consisting of three interdependent elements:

1. A portable $650 million explicit universal service fund to replace a comparable amount of implicit subsidy now collected by ILECs through interstate access charges from long distance companies;
2. A single flat rated subscriber line charge ("SLC") created by consolidating the existing SLC with current charges related to the presubscribed interexchange carrier charge ("PICC"); and
3. A "social compact" providing for a 50 percent reduction over five years in per minute interstate access charges and generally holding them at those lower levels.[3]

Concerned about the CALLS proposal's suggested SLC increase[4] and other ways the plan could affect consumers, APT asked Joel Popkin and Company to evaluate the plan, and to study

[3] Ex Parte Memorandum in Support of the Coalition for Affordable Local and Long Distance Service Plan submitted by John Nakahata to Magalie Roman Salas by letter dated Aug. 20 1999 ("CALLS Memo") at 2-3.

specifically its consequences for rural residents and for low and moderate income customers. Chief economist Steve Posiask conducted the study titled " An Assessment of Consumer Welfare Effects of the CALLS Plan," ("Consumer Welfare Study," attached hereto as Appendix A), which APT and CWA released together on October 25, 1999).

The Consumer Welfare Study concludes that:

> The CALLS plan will enhance overall consumer welfare mainly because it leads to more rational pricing for telecommunications services. Per minute interstate access charges, the usage charge by local telephone companies to long distance companies for originating and terminating a long distance call and a key input for long distance pricing, will be cut in half. As the price that long distance customers pay falls, consumers can both pay less for the calls they are already making and can increase the amount of long distance calls they make. Economists often measure consumer benefits by adding the gains from lower prices for existing usage and expanded usage – a measure of economic well being called consumer welfare. **The drop in interstate access charges, when reflected in long distance bills, significantly increases welfare for consumers.**[5] (Emphasis added).

Although the CALLS plan provides the greatest benefits for business customers, the Consumer Welfare Study also demonstrates that residential customers at all income levels could gain annual benefits of $1.2 billion[6]. They could also save at least 2% annually on their phone bills, which is the amount of savings working families with incomes of $30,000 to $50,000 per year could expect to receive if the Commission adopts the CALLS plan.[7] Beyond the aggregate benefits, the Consumer Welfare Study further identifies the plan's potential advantages for joint

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[4] See, e.g. Comments of the Alliance for Public Technology, In the Matter of Access Charge Reform, CC Docket No.96-262 (Jan. 29, 1997) at 3. ("APT is concerned that access reform not increase the cost of local service or result in new surcharges, such as the subscriber line charge, which make affordability of even current services more difficult for most customers.")

[5] Consumer Welfare Study at 1-2.

[6] Id. at 11.

[7] See Fig. 4, id. at 13.

commenters' constituents, many of whom can ill afford higher prices for the basic necessity of quality telephone service.

A. Universal Service

Joint commenters find most appealing the CALLS plan's universal service protections for rural and low-income customers. By specifying means to ensure that these customers' telephone service remains affordable, CALLS members attempt to address the mandate of Section 254(b)(3) of the Telecommunications Act of 1996. The provision establishes the universal service principle that "[c]onsumers in all regions of the Nation including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services including interexchange services and advanced telecommunications services" that are reasonably comparable to those in urban areas at reasonably comparable rates.[8]

1. Rural Customers – The demographics of the country's rural population emphasize the importance of affordable telephone service in nonmetropolitan areas. "According to the *Earth Island Journal*, rural America contains 43 percent of the disabled, 32 percent of the unemployed and 39 percent of people below the poverty line."[9] The CALLS plan provides a "universal service 'safety net' [a]s a necessary counterpart to the common line restructuring" it proposes.[10] Specifically, CALLS recommends an additional $650 million per year in explicit universal service support to mitigate the effect of geographic deaveraging of SLCs and unbundled loops that would end rural rate subsidies from urban customers. This additional universal service funding supports primary residential and single line business SLCs, which the plan caps at $7.00 per month.

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8 47 USC Sec. 254(b)(3).

9 "Focus on Rural America," Economic Development Digest, NADO Research Foundation (April, 1999) at

The Consumer Welfare Study quantifies the average savings for rural customers at about 3 cents per month, compared to monthly gains of $2.10 for urban and $1.06 for suburban households, but points out that other intangible benefits, such as increased competition from more rational pricing, could accrue to rural consumers.[11] The study also does not attempt to calculate the important benefit of less expensive Internet access from lower toll rates for rural customers without local dial-up access.[12]

2. Low-Income Customers – The CALLS plan recommends unifying SLCs and PICC-related charges into a simplified SLC and extending Lifeline subsidies to reimburse ILECs for the higher combined SLC. At present, Lifeline universal service payments support only SLCs and exclude PICCs. By eliminating the PICC, the CALLS plan removes a charge that some Lifeline customers now pay and guarantees that low-income Lifeline subscribers incur no increased line charges. The Consumer Welfare Study estimates that Lifeline customers with annual incomes below $10,000 could receive almost 3 percent in annual welfare gains under the proposal, while those with incomes between $10,000 and $20,000 could obtain added benefits worth about 2.6 percent per year.[13] Significantly, the study warns that "maintaining the status quo and leaving the implicit usage-based subsidies in place and failing to provide targeted low-income line charge assistance produces sizeable harm to many consumers for the modest benefit of a few."[14]

Joint commenters applaud the CALLS plan's suggestion to enhance Lifeline coverage. In view of the importance of the Lifeline extension to maximize the plan's benefits for people who

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10 CALLS Memo at 22.

11 Consumer Welfare Study at 15-16.

12 Id.

13 Id. at 14.

can least afford telephone rate increases, joint commenters strongly recommend that the Commission work with states to maximize enrollment in the Lifeline program.

B. Potential Consumer Benefits From Lower Switched Access Fees

By halving per minute access charges over five years, the CALLS plan could result in long distance rate reductions for consumers, but only if interexchange carriers pass on their reduced costs through lower long distance toll charges. Joint commenters recognize the potential advantages for consumers not only from more affordable long distance service, but also from the diminished tension under the current rate structure that requires access charge payments of long distance companies yet exempts Internet Service Providers ("ISPs") from such payments. The plan's more favorable pricing could promote bundled service offerings of local calling, long distance, wireless and Internet services in a flat rated package that consumers might find attractive.[15]

Moreover, the CALLS proposal also provides a mechanism to reduce per minute switched access charges in a manner that preserves incentives for quality improvements and investments in the local network. CWA previously provided to the Commission evidence that the Commission's 6.5 percent annual productivity adjustment as set forth in the May 1997 Access Reform Order is too high as measured by expected productivity growth in the industry.[16] Setting the wrong productivity factor will cause price cap LECs to reduce network investment

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14 Id.

15 See MEEKS, B (1999) "New Phone Plan Reduces Fees," MSNBC <http:\www.msnbc.com/news/325303.asp> (Oct. 20 1999).

16 See Economic Policy Institute, "The Consequences of the FCC Price Cap Decision," submitted by the Communications Workers of America as ex parte comments, In the Matter of Access Charge Reform, CC Docket No. 96-262 (Sept. 17, 1997), and In the Matter of Price Cap Performance Review for Local Exchange Carriers, Docket No. 94-1 (July 22, 1998).

and operating expenses, which will result in lowered service quality on today's network and delayed deployment of advanced services.

The CALLS proposal addresses this problem by setting a floor below which traffic-sensitive switched access charges will not drop. Negotiations resulted in CALLS members proposing a 50 percent reduction in switched access charges from today's average of 1.1 cents per access minute to a target of just over 0.55 cents per access minute for Bell Companies and GTE and 0.65 cents per access minute for other price cap LECS. Joint commenters believe that this mechanism for lowering switched access charges will have the added benefit of reducing the opportunity for arbitrage and uneconomic bypass that currently threatens universal service, while preserving incentives for continuous investment in the local network by price cap LECs.

III. THE COMMISSION MUST ENSURE THAT INTEREXCHANGE CARRIERS EQUITABLY PASS ON ACCESS CHARGE REDUCTIONS TO ALL CONSUMERS THROUGH LOWER LONG DISTANCE RATES

The Consumer Welfare Study predicts perceptible benefits for a wide range of consumers if the Commission adopts and implements the CALLS proposal. Joint commenters are keenly aware, however, that the "study assumes that long distance price reductions are commensurate with changes in per minute switched access charges."[17] Consequently, the plan's potential to make telephone service affordable for everyone may never materialize if long distance carriers fail to cut long distance rates equitably for all consumers. The CALLS plan makes no promises on that score, although its members emphasize that

> overall toll charges have a more substantial impact on whether telephone service is affordable than do fixed monthly charges. By dramatically reducing switched access charges, **which can thus lower long distance bills,** it is likely that the plan would, in fact, make telephone service more affordable." (emphasis added.)[18]

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[17] Consumer Welfare Study at 9.

[18] CALLS Memo at 16-17.

Therefore, joint commenters strongly urge the Commission to ensure that interexchange carriers cut long distance rates in a manner that maximizes the consumer welfare benefits. In this way, the Commission will protect low volume phone users and other consumers from bearing a disproportionate share of the proposed line charge increases.

IV. CONCLUSION

As the Commission evaluates the merits of the CALLS plan, joint commenters ask that it look to the future of the Information Age and remember its obligation to preserve universal service in an era of emerging competition for new and innovative telecommunications services. Basic telephone service is a necessity in today's world, and therefore, it must be affordable and available for everyone. Joint commenters contend that on balance, the CALLS plan would shield rural and low-income consumers from unreasonable rate increases, provides measurable benefits to households of all income levels, and could facilitate long

distance rate drops for all residential customers. Accordingly, joint comementers recommend that the Commission adopt the CALLS proposal as an effective plan for achieving universal telephone service, the precursor to the advanced telecommunications service that will be indispensable in the Information Age .

Respectfully submitted,

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November 16, 1999

APPENDIX A

An Assessment of Consumer Welfare Effects of the CALLS Plan

By Stephen B. Posiask

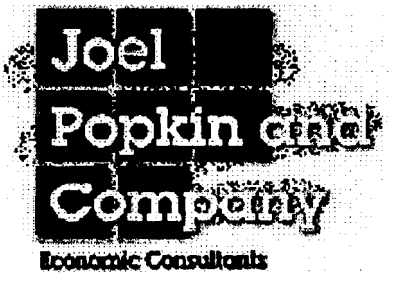
October 25, 1999

Alternatively, the study and an executive summary are available at http://www.apt.org/policy/.

An Assessment of Consumer Welfare Effects of the CALLS Plan

by

Stephen B. Pociask



October 25, 1999

An Assessment of Consumer Welfare Effects of the CALLS Plan

Stephen B. Pociask*
Joel Popkin and Company

Introduction

Recently, the Coalition for Affordable Local and Long Distance Service ("CALLS") submitted a plan to the Federal Communications Commission ("FCC") that would reform the interstate access charge and universal service regimes. The CALLS plan has three main components. It provides for a reduction in the price of interexchange switched access, a consolidation and some increase in end user fixed line charges, and the creation of an explicit universal service fund to support caps on interstate fixed end user line charges in high-cost areas.

At the request of the Alliance for Public Technology ("APT"), this study examines how the plan's interstate access charges and universal service reforms would affect consumers. APT, which advocates for equitable and affordable access to information technologies and services, sought independent evaluation of whether the CALLS plan would benefit consumers at various income levels, as well as consumers in urban and rural areas. Accordingly, using a widely accepted economic approach to measuring consumer benefits, this study shows that if the FCC adopts this unified plan, residential and business consumers will be significantly better off. In fact, when fully implemented in July 2004, the plan will increase residential consumer welfare by $1.2 billion annually, and overall consumer welfare by $5.3 billion annually. This analysis also determined that residential consumers across all income groups and in rural as well as urban areas would benefit from this plan.

The CALLS plan will enhance overall consumer welfare mainly because it leads to more rational pricing for telecommunications services. Per minute interstate access charges, the usage charge by local telephone companies to long distance companies for originating and terminating a long distance call and a key input for long distance pricing, will be cut in half. As the price that long distance customers pay falls, consumers can both pay less for the calls they are already making and can increase the amount of long distance calls they make. Economists often measure consumer benefits by adding the gains from lower prices for existing usage and expanded usage –

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* The author is the Executive Vice President and Chief Economist for the consulting firm, Joel Popkin and Company. The study represents an independent evaluation of the CALLS plan at the request of the Alliance for Public Technology (APT). Funding for this research was provided by CALLS. The views expressed here are those of Joel Popkin and Company and not necessarily those of CALLS. Comments can be directed to 1155 15th Street, N.W., Suite #614, Washington, DC, 20005 or by calling (202) 872-0990.

a measure of economic well being called *consumer welfare*. The drop in interstate access charges, when reflected in long distance bills, significantly increases welfare for consumers.

For some consumers, particularly business consumers and those low-income residential consumers who are Lifeline subscribers, the CALLS plan also reduces total monthly line charges. These consumers see additional consumer welfare benefits from these lower monthly charges, as well as consumer welfare benefits from lower long distance bills. Other consumers, particularly non-Lifeline residential consumers, will see gradual increases in fixed monthly charges under the plan, although competition may force these prices down. These increases partially, but not entirely, offset the consumer welfare gains from lower interstate access price reductions. But even for the most rural of these consumers, because the CALLS plan establishes a set of caps on fixed line charges in high-cost areas, residential consumers, on balance, are better off.

The analysis in this study of the consumer welfare gains that could occur as a result of the interstate access charge reductions is conservative in that it does not attempt to anticipate significant marketing changes that could result from such a substantial reduction in usage-based interstate access charges. The analysis is also conservative because it has potentially overstated the levels of fixed monthly line charges. The estimates of line charges assume the incumbent local telephone companies will assess the maximum line charges permitted under regulation. It is more likely, however, that emerging competition will result in lower monthly line rates than have been assumed in this analysis.

This study also reveals that the residential consumer welfare gains under the CALLS plan are spread across residential consumers in all income groups, not just high-income residential consumers. The analysis also shows that overall telephone subscribership will not fall under the CALLS plan despite the increase in line charges, because subscribership is affected more by overall toll charges than by fixed monthly fees.

Historically, regulators have adopted a policy of preventing increases in fixed charges — even to recover fixed costs — for fear that telephone penetration rates will fall. This study demonstrates that this policy hurts more consumers than it helps and that there are other more efficient methods of ensuring that consumers most at risk remain connected to the public switched telephone network. Under the CALLS plan, penetration rates among rural, low-income and other consumers will not fall, but everyone will pay less for long distance service. Therefore, the current system of implicit support and irrational pricing inhibits consumer welfare because it distorts preferences, leading to less consumption of long distance services than consumers would otherwise demand. The CALLS Plan will reduce the distortion and will do so in a manner that allows consumers in all areas and income groups — residential and business, urban and rural, rich and poor — to benefit.

The Current Interstate Universal Service and Access Charge Regime

The concept of *universal service* (generally referring to the promotion and provision of affordable telephone services to all consumers) has been used to justify historic regulatory pricing policies that set residential and rural rates for local telephone services below costs, and offset those lower rates through increased long distance and business service rates.

Prior to enactment of the Telecommunications Act of 1996, the Federal Communications Commission had created several different formal mechanisms for supporting the provision of telephone service by carriers serving high-cost areas and to low-income individuals. These mechanisms were available only to incumbent carriers and their customers. These formal mechanisms were not, however, the only – or even predominant – means of supporting "universal service." Universal service was, and continues to be, largely supported through implicit support mechanisms.[1] The interstate access charge system is one of those implicit mechanisms.

The 1996 Act amended a statutory concept of *universal service*. The FCC was directed to define universal service and to create explicit mechanisms to support universal service. In its order implementing the universal service provision of the 1996 Act, the FCC altered several of the formal mechanisms in place for supporting universal service and established a mechanism for providing universal service support for service to schools and libraries. The FCC recognized that it would also need to make implicit support in interstate access charges explicit, but it deferred that action pending additional analysis.

The current interstate access charge regime is a byproduct of the regulatory history of the Bell system after the break-up of AT&T. This study will not try to summarize the history of interstate access charges, but will only list some significant access charge elements. Interstate access charges have functioned both as an interstate cost recovery mechanism and to redistribute cost recovery among different groups of consumers. Historically, because interstate access charges (with the limited exception of some transport services) have been geographically averaged within a particular telephone company service area, interstate access rates have served to reduce charges in rural areas with higher costs of service and to increase charges in urban areas with lower costs of service. In addition, the FCC has historically set caps on certain end user charges associated with the cost of the loop (i.e., the connection from the telephone company switching office to the customer's premise). In cases in which the end user loop charge did not cover the regulatorily permitted revenue, those additional revenues are recovered through charges to interexchange carriers.

The Subscriber Line Charge ("SLC") is a fixed charge per month billed by the incumbent local telephone company to its end user subscriber. In the case of multi-line business customers, the SLC recovers all of the permitted revenue associated with loop service to that line (calculated as an average per line), up to a maximum of $9.20 per line per month. In the case of residential and single line business customers, the primary residential SLC recovers all of the permitted revenue associated with loop service to that line (calculated as an average per line) up to a cap of $3.50

[1] See Report and Order on Universal Service Order in CC Dkt. 96-45, FCC, released May 8, 1997 at par. 10.

per month. In virtually every area, the permitted revenues per line exceed $3.50, so that the primary residential SLC is currently $3.50 per month. Additional, or non-primary, residential lines are charged a SLC that recovers the permitted revenue per line up to a cap of $5.95 per line per month.

Because virtually all primary residential and single line business lines, most non-primary residential lines and a small number of multi-line business lines do not recover all of the permitted revenue per line, the FCC has created two other types of charges to make up this shortfall created by the caps on residential and single line business SLCs. The first of these is the Presubscribed Interexchange Carrier Charge ("PICC"). The PICC is a flat rate per month charge by the local telephone company to an end user's presubscribed interexchange (i.e., long distance) carrier. These PICC charges are capped at $1.04 per month for each primary residential and single line business line, $2.53 for each non-primary residential line and $4.31 for each multi-line business line. In the overwhelming majority of cases, the presubscribed interexchange carrier assesses a retail PICC recovery charge to its presubscribed customer to recover the PICC charge it paid to the local company. Interexchange carriers differ as to how they have structured their retail PICC recovery charge, although AT&T, MCI and Sprint all assess a residential retail PICC recovery charge of approximately $1.50 per customer account (not per line).[2] In some instances, a customer has declined to select a presubscribed interexchange carrier. In those cases, the PICC charge is billed directly to the end user customer.

In some local telephone company service areas, the combined total of maximum permitted SLC and PICC charges are not sufficient to recover the aggregate permitted line costs. In those areas, this residual amount is collected through a Carrier Common Line Charge on each switched access minute of use. The Carrier Common Line Charge is applied first to originating access minutes of use, and then to terminating access minutes of use. Each conversation minute of a long distance call switched on both ends generates a minute of originating access use and a minute of terminating access use. The Carrier Common Line Charges are charged to the long distance company handling the call.

In addition, long distance companies pay additional switched access and transport access charges on every minute of long distance calling from ordinary phone lines.[3] These charges are assessed for switching a call at the local switch, and for transporting the call from the local switch to the long distance company's Point-of-Presence.

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[2] AT&T's retail residential PICC recovery charge is currently $1.51 per residential customer account, MCI's charge is $1.46 per account, and Sprint's is $1.50 per account, as reported in Telview Express, CCMI, retrieved October 7, 1999 (www.ccmi.com). According to interexchange carriers, they use per account PICC recovery charges because of difficulties in identifying primary and non-primary residential lines and to avoid expensive changes to billing systems. For example, see AT&T's Sept. 22, 1999 comments to Notice of Inquiry, *Low-Volume Long Distance Users*, CC Docket No. 99-249, FCC 99-168 (released July 20, 1999).

[3] In some cases, transport can be purchased from competing carriers, even if the incumbent local telephone company provides the customer's local service. These arrangements are not significant to the analysis of the CALLS plan.

The CALLS Plan

After years of disagreement on access reform issues, several major telecommunications service providers including traditional interexchange carriers (IXCs) and traditional local exchange carriers (ILECs) proposed substantial changes to the current interstate universal service and access charge regime. Specifically, a group of six companies, including AT&T, Bell Atlantic, BellSouth, GTE, SBC and Sprint, called the Coalition for Affordable Local and Long Distance Service ("CALLS"), asked the FCC to restructure the manner in which ILECs recover the costs of providing interexchange access service, and to simplify universal service funding. In this paper, this proposal will be referred to as the "CALLS plan."

According to its proponents, the CALLS plan is an integrated interstate universal service and access charge reform plan with three principal components: (1) an additional $650 million in universal service support to make explicit support presently implicit in interstate access charges; (2) the consolidation of existing modes of recovering non-traffic sensitive costs into an end user charge and permitting residential charges to increase in modest increments through July 2003, with offsetting reductions in per minute usage-based and flat-rated carrier-paid access charges; and (3) a modified price cap plan that uses the price cap formula to reduce switched access charges to a target rate roughly half of existing average switched access rates, after which time they are in essence subject to a nominal price freeze. As the proponents have acknowledged, the results of the CALLS plan, over its full term through January 2005, would be to increase explicit universal service funding, increase monthly common line charges to residential end users for the primary residential line and to single line business users, decrease total line charges for multi-line business users, and decrease the per minute interstate access charges.[4] Under the CALLS plan, when compared with today's charges, per minute interstate access charges decrease by more than the net increase in fixed line charges and universal service funding. In other words, the plan is not "revenue neutral" but contemplates an absolute drop in total interstate switched access revenues, when calculated using constant line and minute demand.

The thrust of the proposal is to stabilize federal universal service policies by creating an explicit and competitively neutral source of universal service funding, targeting that universal service support to subscribers in high-cost areas and to low-income populations, and letting companies use competitive rate structures when serving all other subscribers. The restructuring contemplated by the CALLS proposal is clearly a step toward more efficient, cost-based pricing.[5] As competition develops in local services, cost-based pricing encourages broad-based market entry instead of entry narrowly focused on market segments that pay, rather than receive, implicit universal service subsidies through higher service rates. Because implicit subsidies are not

[4] *Memorandum in Support of the Coalition for Affordable Local and Long Distance Service Plan*, in CC Dkt. Nos. 94-1; 96-45; 96-262, FCC Ex Parte filed Aug. 20, 1999.

[5] There has been ample discussion about the need for restructuring and deaveraging as a means to achieving economically efficient pricing. The introduction of SLCs and the FCC's access reform order are examples of the regulatory steps toward cost-based pricing. There have been many examples of this discussion in the economic literature, some of which are cited in this paper. For a comprehensive discussion and analysis of subsidies, cost models, restructuring and deaveraging see Robert Crandall and Leonard Waverman, Who Pays for Telephone Service? When Telephone Subsidies Become Transparent, Brookings Institution Press, forthcoming, Chapter 6.

sustainable under competition, such a plan is now necessary, if universal service is to continue to be supported.

The CALLS plan does not, however, eliminate universal service subsidies or permit complete rate deaveraging. For residential consumers, when the plan is fully implemented, the maximum residential and single line business end user charge (excluding universal service recovery charges) cannot exceed $7 per line, and the maximum multi-line business end user charge cannot exceed $9.20. According to proponents, the average charges (as opposed to the highest rate charged by any telephone company) will be substantially lower. These caps on rural end user charges are supported by the $650 million explicit universal service support proposed in the plan. This $650 million in explicit universal service support is portable among competing eligible telecommunications carriers. As such, because the plan caps the combined residential end user charges, rural customers are protected from much sharper price increases that would likely result from complete geographic deaveraging.

The CALLS plan also expands Lifeline support for low-income consumers, who will pay no monthly SLCs, no PICC charges, and who will also be able to select lower long distance rates from plans that interexchange carriers offer. In particular, low-income customers qualifying for Lifeline support will receive additional benefits that more than offset any increase in line charges. These extended Lifeline benefits cover the increase in line charges.[6] Because what is now the PICC is rolled into the SLC, PICC charges will be covered by Lifeline support for the first time.

Total Price Effects of the CALLS Plan

In order to calculate the consumer welfare changes due to the CALLS plan, the projected price effects of the CALLS plan need to be determined. The analysis begins with the projections filed by CALLS with the Federal Communications Commission.[7] As discussed further below, the filed projections were adjusted in order to better reflect actual retail price changes (as opposed to changes in carrier to carrier charges) and to isolate the changes that are a direct result of the CALLS plan from other changes that the FCC will be implementing during the same time period (most notably changes in universal service assessment and carrier recovery of those contributions resulting from the decision of the United States Court of Appeals for the Fifth Circuit in *Texas Office of Public Utility Counsel v. FCC*).[8]

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[6] The expansion of Lifeline support proposed in the CALLS plan will result in an average 11-cent monthly credit for residential single line customers, amounting to $130M in annual benefits.

[7] Letter of Notification of Written Ex Parte in CC Dkt. Nos. 94-1; 96-45; 96-262, Coalition for Affordable and Local and Long Distance Services, attached spreadsheet detailing simplified projected estimates for CALLS service plan, Sept. 1, 1999. The filed SLC and PICC (shown combined) and the interstate access charges are as follows:

	Primarily Line – Res.	Non-Primary Line- Res.	Multi-Line Business	Inter. Sw. Access
July 1999	$4.52	$7.60	$9.80	$0.011191
July 2004	$6.15	$5.95	$6.21	$0.005564

[8] The United States Court of Appeals for the Fifth Circuit recently invalidated FCC rules requiring incumbent local telephone companies to recover universal service costs through interstate access charges. The court held that recovering universal service expenditures through access charges did not constitute explicit recovery, as required by the 1996 Telecommunications Act. *Texas Office of Public Utility Counsel v. FCC*, No. 97-60421, 1999 U.S.

Figure 1: CALLS Restructuring Proposal
Average Rates

	July 1999	July 2004
Primary Line Residence and Single Line Business	$5.49 (SLC, IXC retail PICC recovery and USF)	$6.90 (SLC only, no IXC retail PICC recovery and USF)
Non-Primary Line Residence	$6.92 (SLC and PICC for de-PIC and USF)	$6.81 (SLC only, no PICC and USF)
Multi-line Business	$9.93 (SLC, PICC and USF)	$7.85 (SLC, PICC and USF)
Interstate Switched Access Residence and Business (per minute of use charges)	$0.010649	$0.005564

Figure 1 summarizes the price changes in the CALLS plan. The chart compares the average combined fixed rates (SLCs and PICCs) for July 1999 and the projected rates for July 2004 under the plan. Comparisons are made for each category: primary lines, non-primary lines, and multi-line business lines. In addition, the chart illustrates the reductions in per minute interstate switched access rates.

As briefly mentioned, these rates include a number of adjustments that better reflect the prices that consumers pay, rather than the prices that local carriers charge interexchange carriers. The first set of adjustments made to the filed rates reflects the fact that long distance companies do not bill end users the retail PICC recovery charges in exactly the same manner as those long distance companies are billed these charges by the local telephone companies. Because this study attempts to calculate changes in consumer welfare, the figures in the column representing the total SLC and PICC charge are adjusted so that they represent, for residential and single line business customers, the sum of the SLC plus the long distance company's retail PICC recovery charge. In addition, because 5% of end users do not select a presubscribed interexchange carrier (referred to as a de-PIC), and are billed directly, an adjustment was made to reflect the fact that those customers pay different total bills than customers who select a presubscribed interexchange carrier. These adjustments are made only to the July 1999 rates because the CALLS plan eliminates PICC charges (and hence eliminates the long distance company's retail PICC recovery charges) for residential and single line businesses users, as well as for most multi-line business users.

App. LEXIS 17941 (5th Cir. July 30, 1999). The ramification of this decision on the economic analysis of the CALLS plan will follow.

The second set of adjustments isolates and separates the effects of upcoming changes to universal service contribution and contribution recovery mechanisms that will occur as a result of the decision of the United States Court of Appeals for the Fifth Circuit in *Texas Office of Public Utility Counsel v. Federal Communications Commission.* As a result of that decision, the FCC will have to change how it assesses carriers their universal service contributions, and it may no longer require incumbent local telephone companies to recover universal service contributions through increased interstate access charges. Instead, local companies will be able to recover these contributions through a separate charge to customers. Although recovery of universal service contributions from end users is consistent with the CALLS plan, it would be misleading to assess the welfare effects of the CALLS plan without recognizing that implementation of the 5th Circuit decision will affect the baseline charges being paid by consumers notwithstanding the CALLS plan.

The portion of the Fifth Circuit's decision in which it ruled that Federal USF payments by telecommunications carriers cannot be assessed based on intrastate revenues will have the effect of increasing USF contributions by long distance carriers who will pass this increased cost along to end users as part of the long distance carrier's universal service contribution recovery charge. To adjust for this change, the study transfers $915 million in USF obligations from local telephone companies and wireless companies to long distance companies. While it is not known precisely how long distance companies will recover these charges, for the purposes of this analysis, the study assumes that long distance companies will recover these costs in proportion to the revenue share of its residence and business customer base. These contributions that are shifted to the long distance companies from the local companies by the Fifth Circuit decision would, if assessed on a per line basis, increase long distance company line charges by 30 cents per month for residence primary and non-primary lines, and 76 cents per month for business lines. This cost modification is included in the line prices in Figure 1, including the July 1999 prices in order to create a more accurate baseline for comparison.

The Fifth Circuit also held that the FCC cannot mandate that ILECs recover USF through access charges, which means that an ILEC's portion of USF obligations could be charged directly to end users. Therefore, in order to reflect in baseline rates the effects of that decision, the study then removes the remaining local telephone company universal service contributions (i.e. those not already shifted to the interexchange carriers) from either per minute or carrier paid PICC charges. Although it is not yet known exactly how local companies will recover these contributions, the study assumes that local companies recover these remaining existing universal service contributions through a line charge rather than a usage charge. This increases all the line charge totals in Figure 1 by an additional 30 cents per month.

In addition, changes in universal service charges due solely to implementation of the CALLS plan are included in the year 2004 figures. For example, the $650 million in universal service funding for high-cost areas served by price cap incumbent local telephone companies, as well as additional Lifeline support amounts to offset the higher SLC waivers, raises the 2004 line charges by 5 cents per month (for ILEC recovery) and another 21 cents per month (for IXC recovery) per residential line.

The 2004 primary residence line charge prices also reflect a downward adjustment for lower prices paid by Lifeline subscribers who no longer pay PICC charges, and who have all SLC charges waived. This is approximately $130 million in annual benefits to Lifeline customers, which reduces the average residential line charge price for Lifeline residences by approximately 11 cents per month.

By making these adjustments, the study attempts to isolate, to the extent possible, the total price changes that occur as a result of the CALLS plan. The adjustments include both the positive and the negative price changes that derive from the CALLS plan.

The study assumes that long distance price reductions are commensurate with changes in per minute interstate switched access charges. In order to simulate long distance price effects, the reductions in per minute switched access charges were doubled to reflect the fact that the vast majority of calls incur access charges at both the originating and terminating end of the call. The study does not attempt to anticipate any effects the CALLS plan may have in stimulating the development of new marketing packages that could further reduce the incremental price of usage, such as flat-rate or wireless-style one-rate pricing. The plan also does not attempt to capture benefits from improving customer selection of long distance plans, or from additional competition that lower prices and increased demand would produce.

A close review of Figure 1 suggests that businesses clearly benefit from the plan's price reductions. Although this observation is true, it is somewhat misleading because it assumes that the starting point is sustainable under competition. As Figure 1 shows, on a per line basis, multi-line business customers currently pay almost twice what residential customers pay in line charges. This existing disparity reflects present implicit support mechanisms that will be undermined as competition grows. This disparity in prices is also counterintuitive to network economics, which would predict that concentrated business markets are cheaper to serve than more geographically dispersed residential customers.

Welfare Effects of the CALLS Plan

This study sets out to use standard economic social welfare analysis to test a hypothesis – does the CALLS plan, including both potential increases in residential line charges and anticipated decreases in toll rates and business rates, benefit consumers? This study compares the degree to which residential and business consumers are affected by the plan, as well as examines the plan's effect on the welfare of residential consumers across income and geographic groups. Based upon accepted economic thinking, it is generally expected that more rational pricing — or aligning prices more closely to the costs of providing particular services — will create welfare improvement.

The proper way to analyze the effect of this plan on consumers is to measure how it changes the consumer portion of social welfare. Social welfare measures the well being of consumers and producers, as well as resource use. For consumers, well being is calculated as the surplus value

over the price paid (referred to as consumer surplus); and for producers, well being is calculated as the surplus of revenues above costs (referred to as producer surplus). Because this study focuses on the benefits of the CALLS plan for consumers, for the purpose of this analysis, only changes in consumer surplus are considered. A discussion of the economics that support social welfare analysis is contained in Appendix A of this report.

To determine whether the CALLS plan benefits consumers, the study examines the change in consumer welfare as a result of the plan. If the set of price changes results in an increase in economic welfare, then the plan benefits consumers as a whole. If the plan results in a decrease in consumer welfare, then more consumers are worse off by the plan. In order to assess the impact between residential and business consumers, the welfare effects for each segment will be measured separately.

It is worth noting that Crandall evaluated a hypothetical restructuring plan that increased residential subscriber line charges to $7 while decreasing switched access prices to $0.005.[9] He concluded that restructuring pricing for local and toll services would produce a $1.5 billion increase in consumer welfare. This does not mean that the CALLS plan would produce the same results as Crandall estimated, but it does suggest that restructuring can have a positive effect on residential consumers that is not anomalous. If consumers can benefit from restructuring, then a policy that prevents efficient pricing, for fear that it will hurt consumers, actually makes consumers worse off. That finding challenges the decades-old policies that lower line prices through subsidies imposed at the expense of higher usage costs help consumers.

For the purpose of this study's estimate of the plan's change in consumer welfare, several assumptions about price elasticity for telecommunications services are made. Local service elasticities were assumed to be -0.003, -0.005 and -.010 for residential, single line business and multi-line business, respectively. These estimates are based on Hausman, Tardiff and Belinfante's study of local services and on Lester Taylor's range of -0.001 to -0.003 for residential services.[10] Line charges are assumed to have the same elasticity as local services. Studies have shown that long distance elasticity estimates range from -0.25 to -1.2, depending on the specific service.[11] For purposes of this model, the elasticity of interstate toll services is assumed to be -0.72, consistent with public studies[12] and, for simplicity, are applied to the entire interstate toll market.

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[9] Robert W. Crandall, "Subsidies, Redistribution, and Consumer Welfare," published in A Communications Cornucopia, Roger G. Noll and Monroe E. Price (editors), Brookings Institution Press: Washington, D.C., 1998.

[10] Jerry Hausman, Timothy Tardiff and Alexander Belinfante, "The Effects of the Breakup of AT&T and Changes in Telecommunications Regulation: What Are The Lessons," AEA Papers and Proceedings 83:2 (May 1993), pp. 178-184. Also see Lester D. Taylor, Telecommunications Demand in Theory and Practice (Dordrecht: Kluwer Academic Publisher, 1994), chapter 5.

[11] Ibid. For other studies see Carlos Marins-Filho and John W. Mayo, "Demand and Pricing of Telecommunications Services: Evidence and Welfare Implications," Rand Journal of Economics 24:3 (Autumn 1993), 439-454; and William E. Taylor and Lester D. Taylor, "Postdivestiture Long-Distance Competition in the United States," AER Papers and Proceedings (May 1993), pp. 185-190.

[12] Joseph P. Gatto, Jerry Langin-Hooper, Paul B. Robinson and Holly Tyan, "Interstate Switched Access Demand Analysis, Information Economics and Policy 3:4 (November 4, 1988), 333-358. This figure continues to be cited and used.

Interstate access service is assumed to have the same elasticity as toll, which is consistent with other studies.[13]

For the reasons discussed previously, the rates shown Figure 1 were used in calculating welfare effects for residential and business end users. The results, shown in Figure 2, estimate annual large welfare gains that will result from the implementation of the CALLS plan. Residential end users gain $1.2B per year, and total annual benefits to all end users exceed $5B.[14] These figures, as well as the remaining welfare figures to be presented in the study, reflect the annualized effect on consumers when the plan is fully implemented.

Figure 2: Consumer Welfare Gains Resulting from July 1999 to July 2004 Price Changes (Billions of Dollars at Annual Rates)

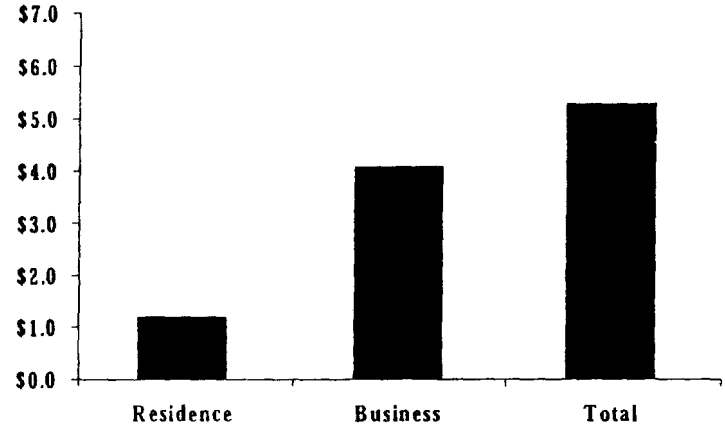
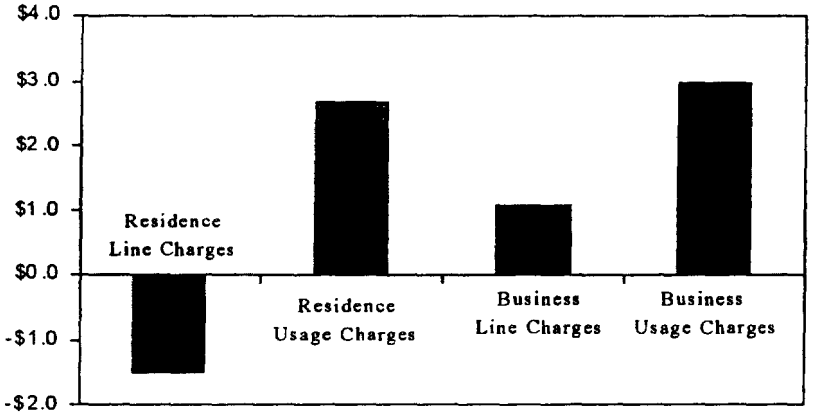


Figure 3 shows that welfare losses resulting from rate increases on residential line charges are more than offset by welfare gains resulting from toll price reductions for residential customers. In other words, residential consumers receive much more benefit from interstate toll at lower prices than they are harmed by higher line charges.

[13] Timothy J. Tardiff, "Effects of Large Price Reductions on Toll and Carrier Access Demand," presented at the 1996 International Communications Forecasting Conference, Dallas, TX, April 19, 1996, and Charles J. Zarkadas and Augustin J. Ros, "An Analysis of the Effects of Exchange Access Reform on Demand Stimulation," NERA, 27 April 1997.

[14] As previously stated, the adjusted rates shown in Figure 1 better reflect what consumers are actually paying, as opposed to fees that carriers charge each other. Yet, this raises a question about the extent to which the adjustments themselves influence the welfare results presented in this study. As a test, the welfare estimates were recalculated using the unadjusted rates (those filed with the FCC and cited in footnote 7). Using the filed rates to estimate consumer welfare, the plan would yield an additional $1B more in welfare gains to residential and business end users, compared to using the adjusted rates. For the purpose of this study, the more comprehensive adjusted rates will be used, despite their more conservative results.

Figure 3: Welfare Affects - Line and Usage
Comparing July 1999 to July 2004
(Billions of Dollars at Annual Rates)



In addition, business customers see consumer welfare improve both from decreasing toll charges and decreasing monthly fixed charges. The differences in net consumer welfare between business and residential end users can be largely explained by convergence of business and residential line charges toward the same rates – a pricing regime under which rates do not differentiate between lines based on whether the subscriber is a business or residential user. Thus, this analysis verifies that there can be more economically efficient prices and residential consumer welfare gains amounting to $1.2 billion per year once the CALLS plan is fully implemented.

The results of this consumer welfare analysis confirm expectations: by moving prices toward more economically rational and market-driven rate structures and by establishing a system of caps on line charges with universal service support for those caps, the plan increases consumer welfare and benefits consumers. Because long distance services are more price-elastic than local line services, reducing long distance charges through decreased access rates markedly increases consumer surplus for residential consumers even though the fixed price for telephone lines will rise slightly. In layman's terms, consumers are better off because they pay less for the long distance services they were already buying, purchase substantially more long distance service that they desire at now lower prices, and purchase nearly the same amount of another good they want (e.g., the line connection) albeit at a slightly higher price. Indeed, as will be discussed later, the overall restructuring proposed in the CALLS plan will not negatively affect penetration levels.

This estimate of the consumer welfare gains from the CALLS plan is again conservative because it ignores another beneficial effect of moving to more rational, market-driven pricing structures. More rational prices, particularly in the residential market, will likely stimulate competition in the local loop. Competition would further enhance consumer welfare, because it generally results in dynamic efficiencies that generate lower prices, more innovation and a greater supply of service packages that consumers demand.

Ironically, this analysis of the CALLS plan shows that those who seek to raise toll rates in order to benefit residential consumers are pursuing a misguided policy. The decades-old conventional wisdom is wrong: line subsidies do not help consumers, but ironically, they hurt them.

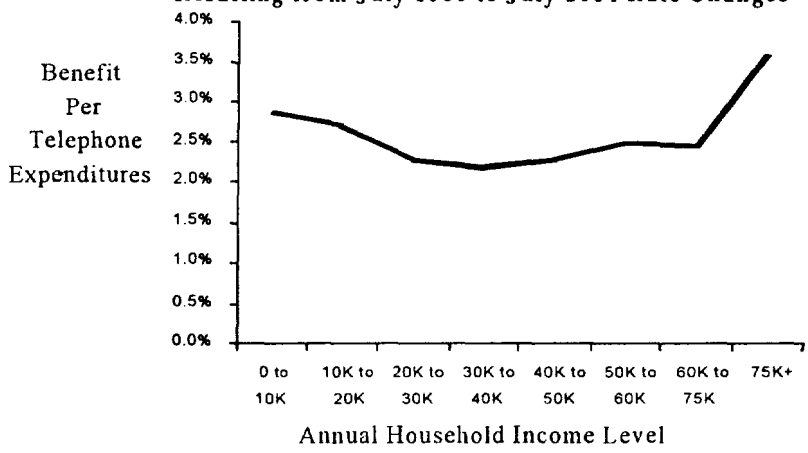
Impact by Income and Geography

Until now, this study has focused on the aggregate welfare impacts on residential and business consumers. However, an area for examination is the CALLS plan's redistributive impact on different demographic groups. For example, are low-income consumers worse off under this plan? Are rural customers hurt when rates are deaveraged, as permitted under this plan? To understand these impacts on consumers, further analysis was necessary.

1) Impact on Low-Income Residents

In order to get a better understanding of the impact of the plan on residential customers, the bills of 5,511 residential households were analyzed.[15] The data included long distance and local service charges, which were tabulated into various income groups. The annual consumer welfare changes for households were computed as a percent of local and toll spending, and plotted below for each household income group.

Figure 4: Welfare Gains
By Household Income Level
Resulting from July 1999 to July 2004 Rate Changes



These results are depicted in Figure 4 and indicate that many income groups will benefit from the CALLS plan, although to slightly different degrees. Because toll expenditures increase very slightly with income, welfare gains as a percent of the telephone service expenditures show stable benefits across income groups. Furthermore, as Figure 4 indicates, this plan benefits low-income customers, as well as all other income groups.

[15] This billing information comes from MarketShare Monitor, PNR and Associates, and Market Facts Inc., and represents a stratified sample of residential bills covering the fourth quarter of 1998.

One reason for the relatively stable redistribution of welfare by income group is the expansion of the Lifeline program provided for in the CALLS plan. Lifeline is an existing universal service program under which the residential subscriber line charge, up to a maximum of $3.50, is waived for the Lifeline subscriber, with the local telephone company reimbursed by the Universal Service Fund. Long distance company retail PICC recovery charges are not covered by Lifeline today. Under the CALLS plan, because the retail PICC recovery charge is, in essence, consolidated into the SLC, consumers eligible for Lifeline benefits will not pay the SLC charges or retail PICC recovery charges. In other words, low-income customers who are eligible for Lifeline support will see no increase in the line charges that result from this plan. Low-income consumers, however, will benefit from toll price reductions, just as other consumers will. For the purpose of constructing Figure 4 to reflect these added Lifeline benefits, it was assumed that only 31% of the households with incomes less than $10,000 will take advantage of this support, and that only 20% of those households with incomes between $10,000 and $20,000 would also obtain these benefits. These assumptions for Lifeline subscribership correspond with overall Lifeline subscribership of approximately 5.4 million, the current number of Lifeline subscribers. The actual distribution of Lifeline customers by income group is not known.

The conclusion that welfare benefits are relatively stable over income groups, increasing only slightly with income, is consistent with Crandall's finding that the top decile of long distance spending by low-income consumers is nearly as great as the top decile of spending by high-income consumers.[16] He suggests that a subsidy for line charges paid for through increased usage rates is ineffective at targeting low-income residents, because some low-income residents make many toll calls and pay too much due to the subsidy, while some high-income residents make few toll calls and pay too little. Because the current usage based implicit subsidy does a poor job of helping low-income residents, substantially reducing that subsidy while providing targeted line charge assistance to low-income consumers (as shown in Figure 4) benefits rather then harms low-income Americans. The converse is also true: maintaining the status quo and leaving the implicit, usage-based subsidies in place and failing to provide targeted low-income line charge assistance produces sizable harm to many consumers for the modest benefit of a few.

2) Impact Across Geographies

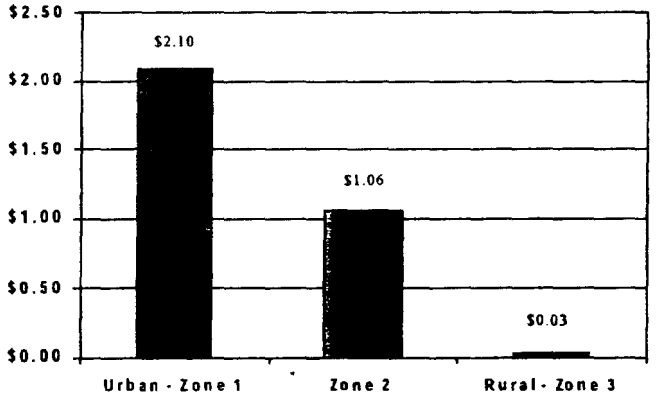
Another issue involves pricing based on geography or density. Many rural areas are costly to serve because subscribers are far apart, while urban areas are generally low-cost areas because subscribers are close together. Mandatory geographic rate averaging, which is still required for generally available tariffed interstate rates, has required the overcharging of urban customers for the benefit of rural customers. In effect, prices are averaged in order to make them more affordable to consumers living in high-cost areas. Under the CALLS plan, flat line charges will be allowed to vary by geographic area, provided that residential charges for primary lines do not exceed $7 per month, and only if state commissions have created zones for the wholesale offering of unbundled network elements.

[16] Robert W. Crandall, "Subsidies, Redistribution, and Consumer Welfare," published in A Communications Cornucopia, Roger G. Noll and Monroe E. Price (editors), Brookings Institution Press: Washington, D.C., 1998.

The $7.00 per month residential line charge cap, and the corresponding $9.20 multi-line business line charge cap, in the CALLS plan do not include the additional USF charges end users will be paying, either to long distance companies or to local telephone companies. In order to evaluate the impact of the CALLS plan on rural, suburban and urban residential customers, the prices in Figure 1 were separated into rural, suburban and urban zone rates, assuming equal numbers of customers in each zone. To simulate the plan's effect of deaveraging on rural residential customers, it is assumed that rural customers will pay the maximum permitted under the plan. This is a worst-case scenario, but useful in exploring the consumer risks under the plan. Suburban customers were assumed to pay average residential rates, i.e. the same rates as shown in Figure 1. Urban customers were assumed to pay rates below the national average to the same extent that capped rural rates were above the national average.

Figure 5 shows the welfare effects for three typical customers – one customer residing in suburban zone 2 (paying the average residential SLC of $6.15 per month), one customer residing in rural zone 3 (paying the maximum residential SLC of $7.00 per month) and one customer residing in urban zone 1 (paying a SLC of $5.30 per month which is a reduction in price exactly equal to the rural increase). As before, the USF and other adjustments are made.[17] Toll volume is assumed to be the same between the three customers.

Figure 5: Monthly Welfare Gains Per Household Resulting from July 1999 to July 2004 Price Changes By Geographic Zones



It should be noted that changes in customer mix such that urban population is larger than the rural population would not reduce estimated consumer welfare for the average residential household in the rural zone, but would merely spread the positive benefits over more Zone 1 households. For example, if Figure 5 were calculated using six customers, one in Zone 3, two in Zone 2 and 3 in

[17] The following table summarizes the primary monthly residential line surcharges used in this analysis:

Zone	*July 1999 SLC+Retail PICC+USF*	*July 2004 SLC Rates*	*July 2004 SLC and USF*
Zone 1 -- Urban	$5.49	$5.30	$6.05
Zone 2 -- Suburban	$5.49	$6.15	$6.90
Zone 3 -- Rural	$5.49	$7.00	$7.75

Zone 1, the consumer welfare estimates would be no lower for Zone 3, but would be lower for each Zone 1 customer. Simply stated, regardless of the mix of urban and rural customers, the welfare gains going to rural customers in Zone 3 can be no lower than estimated above.

In addition, these results understate a number of benefits to rural customers. The benefits are understated to the extent that additional local market entry and price competition results from more efficient pricing in rural markets. Rational pricing will create a market for increased competition in rural markets and add consumer benefits not measured here. In other words, the study does not attempt to capture the dynamic benefits from increased competition in the form of even lower long distance or connection charges, or innovative services. Because implicit support policies have kept rural prices below cost, entry will be impeded in the absence of either a more rational rate structure or an explicit support mechanism for those areas. These benefits that will be derived from enhanced competition are not reflected in the consumer benefit results presented in this study.

If today's implicit universal service mechanisms were to fail completely, the baseline rural rates would be much higher than $5.49, and likely would be greater than $7.00 in some areas. The CALLS plan provides an intangible benefit because it minimizes rural customer increases while permitting more efficient market pricing.

The study also does not attempt to capture the benefits of lower toll rates for those rural customers who cannot reach the Internet through local dial-up access. There are still rural areas that lack local Internet access.[18] For those individuals, lowering toll rates increases their ability to use the Internet. Furthermore, average toll use may be higher for rural customers than urban customers, which would understate the benefits to rural customers estimated in this analysis.

Figure 5 shows the caps on line charges under the CALLS plan are set at levels that ensure that rural residential consumers see a net consumer welfare gain even as SLC rates are geographically deaveraged. Figure 5 further demonstrates that welfare benefits can be achieved for all geographic groups of residential customers. These benefits are widespread and substantial. This data also shows, again, that the current implicit usage-based subsidies reduce consumer welfare for residential consumers as a whole, and do not improve, and may even reduce, consumer welfare – even for rural households.

Impact on Telephone Penetration

One obvious area of inquiry deals with the impact of the CALLS plan on telephone penetration. Does the increase in subscriber line charges result in a decrease in the number of households with telephone services?

[18] Tom Downes and Shane Greenstein, "Universal Access and Local Commercial Internet Markets," Institute for Government and Public Affairs at the University of Illinois, June 8, 1998.

If economic analysis looked only at the direct effects of an increase in price of a line by itself, an increase in SLC rates may produce a small, but negative, impact on the number of households with telephone services. However, there is evidence that the effect is inconsequential, especially when accompanied by toll rate reductions. Wolak looked at the effect of increasing local charges and decreasing long distance access charges and found positive welfare gains to households and little effect on universal service.[19] Hausman, Tardiff and Belinfante analyzed the cross-elastic effects of toll rates on local telephone penetration and found that telephone penetration rates would actually increase as a result of unlocking the billions of dollars of welfare gains that have been frozen in regulatory rates. In effect, by moving prices closer to costs, long distance toll services become more valuable to consumers so that access line demand increases. Hausman, Tardiff and Belinfante wrote:

> "Thus, an increase in basic access prices combined with a decrease in long distance toll prices (via a decrease in long distance toll prices) could well lead to an increase in telephone penetration, rather than a decrease as has been assumed by many regulators."[20]

Based on the model developed in this study and using the cross-elastic effect estimated by Hausman, Tardiff and Belinfante, it is estimated that telephone penetration will remain relatively unchanged, as a result of implementing the CALLS plan. Hence, the proposal does not drive consumers to disconnect their telephone line.

This result is consistent with consumer survey data previously filed with the FCC. Both Bell Atlantic and GTE conducted consumer surveys at the request of the District of Columbia Public Service Commission and the California Public Utility Commission, respectively, that showed that high toll bills were the leading reason why individuals lose telephone service.[21]

Conclusions

On the surface, who benefits? End users are clearly made better off by the CALLS plan, because the plan's changes lead to large welfare benefits to both residential and business consumers. The plan produces clear welfare benefits for residential consumers across all income groups and across geographic areas. Moreover, the plan would have little or no negative impact on telephone penetration, and may contribute to improving telephone subscribership. In addition, because the

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[19] Frank A. Wolak, "Can Universal Service Survive in a Competitive Telecommunications Environment? Evidence from the United States Consumer Expenditure Survey," Department of Economics, Stanford University, Stanford, CA, February 1996, p. 36.

[20] Jerry Hausman, Timothy Tardiff and Alexander Belinfante, "The Effects of the Breakup of AT&T and Changes in Telecommunications Regulation: What Are The Lessons," AER Papers and Proceedings 83:2 (May 1993), p. 182.

[21] Chesapeake and Potomac Telephone Companies Submission of Telephone Penetration Studies, Formal Case No. 850, filed Oct. 4, 1993; and Field Research Corporation, "Affordability of Telephone Service: A Survey of Customers and Noncustomers," 1993 (provided by GTE and Pacific Bell To the California Public Utilities Commission).

plan will lower toll bills and increase business productivity, as reflected in part by the welfare gains for business consumers, these benefits will likely be passed on to consumers by way of lower priced products and services and economic growth. In short, the economic model presented in this paper demonstrates that efficient pricing for telecommunications services will benefit the public in the aggregate, without hurting any group of consumers.

While the vast majority of consumers benefit from the plan, there is always the risk that some individual consumers will be worse off, although not by more than a small amount. However, the question that must be asked is – how can policymakers continue telephone subsidies that ultimately hurt so many consumers in order to help so few? Because these subsidies are an inefficient means to target rural and low-income consumers, as demonstrated here and by others, why perpetuate this cost on the majority of telephone consumers? Except for Lifeline customers, the current system of subsidies is neither explicit nor targeted to low-income consumers. Hence, consumers pay heavily and few benefit. The sizable welfare gains that result directly from the CALLS plan demonstrate that the decades-old implicit subsidies hurt, rather than help, consumers.

Appendix A

Social Welfare Analysis

The proper way to analyze the effect of the CALLS plan on consumers is to perform a social welfare analysis. Social welfare analysis measures the well being of consumers and producers, as well as resource use. For consumers, it is the surplus value over the price paid (referred to as consumer surplus), and for producers, it represents the surplus of revenues above costs (referred to as producer surplus). For purposes of this analysis, total social welfare is the sum of consumer and producer surpluses.

Figure 1:

Consumer Welfare Gain From A Decrease in Price

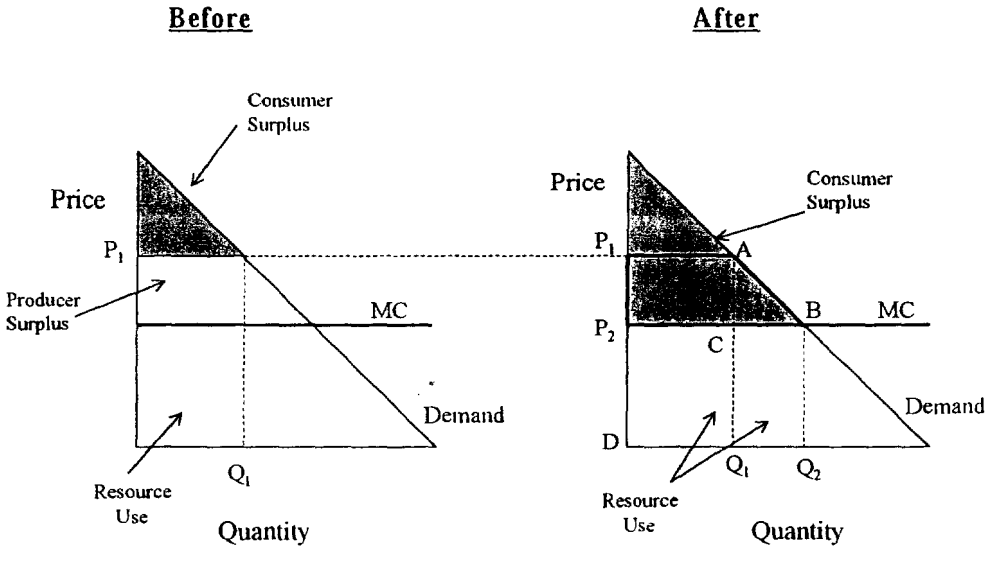

Figure 1 depicts an increase in welfare resulting from a decrease in price, in this case, toward cost. In this illustration, the consumer welfare before and after the price change is depicted as the area of the upper most triangle (shown shaded). The change in welfare (or the difference in the triangle's area – before and after) is equal to the trapezoid (P_1-A-B-P_2). For purposes of precise measurement, however, the shape of the demand curve is assumed to be convex so that it exhibits constant returns to scale. It is more acceptable to assume that individuals respond to

proportionate changes in price instead of absolute changes in price.[22] This approach is common in welfare measurement studies, although this refinement results in only a slight reduction in the welfare triangle area (A-B-C) and therefore produces a lower and more conservative welfare estimate. This non-linear specification will be used in this study.

A few basic things about welfare measurement are worth noting. First, changes in revenue have little bearing on changes in welfare. In Figure 1, revenue lost from the price reduction (rectangle P_1-A-C-P_2) may or may not offset the revenue gained (rectangle Q_1-C-B-Q_2). However, the consumer welfare gain is always positive when industry prices are reduced. The distinction rests in large part on the direct savings that consumers have on each item purchased, as well as additional savings resulting from stimulation. Hence, it is possible for consumers to spend more overall on a good and be much better off. It is also worth noting that when prices are set substantially above costs, consumers are harmed because they would have demanded more. In this way, subsidies between goods cause consumers to reallocate their budgets in a manner that distorts preferences. In this way, subsidies cause inefficiencies, which reduce welfare.

These principles demonstrate that consumers will benefit from the restructuring of rates provided for in the CALLS plan. Since long distance prices are kept artificially high by the current subsidies, consumers will respond to the lower prices by demanding more long distance minutes. Consumers will be better off than they are today because they will be able to obtain more of a product they want at a lower price. Under the plan, explicit universal service support will maintain affordable and comparable service for all, while the distortions of the past — which have consistently lowered overall consumer welfare — are rectified.

[22] Walter Nicholson, Intermediate Microeconomics and Its Application, (Dryden Press: Hinsdale, Illinois) 1979, pp. 118-119.

I, Ayesha Nichols, an employee for the Alliance for Public Technology, hereby certify that on the 16th day of November, 1999 copies of the foregoing "Comments of the Alliance for Public Technology In the Matter of Access Reform/Price Cap Performance Review for Local Exchange Carriers/Low-Volume Long Distance Users/Federal-State Joint Board on Universal Service" were hand delivered to:

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