

VIEWS AND NEWS

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De-linking Intercarrier Compensation from explicit Universal Service support.

On February 8, the Federal Communications Commission (FCC) adopted a new Notice of Proposed Rulemaking (NPRM) proposing a comprehensive reform of its Universal Service Fund (USF) and Intercarrier Compensation (ICC) policies. That same day, the State member staff of the Federal-State Joint Board on Universal Service released three alternative USF plans. Both the NPRM and the Joint Board proposals are offered as a means for achieving nationwide broadband availability by providing financial support for infrastructure development in presently unserved and underserved areas. The FCC's March 2010 *National Broadband Plan* had estimated that 95% of all US households had access to at least one wireline (telco or cable) broadband provider, and that “rural areas are less likely to have access to more than one wireline broadband provider than other areas” and that “low-income areas are on average somewhat less likely to have more than one provider than higher-income areas.” All of the proposed USF solutions contemplate expansion of existing high-cost and other support mechanisms to include wireline and wireless broadband both as contributors to the several funds and as potential recipients of USF-supported subsidies.

A key tenet of the FCC and Joint Board proposals is that nationwide broadband service availability won't happen without expansion of existing subsidy programs to fixed and wireless broadband. We've heard similar arguments regarding other items on the incumbent providers' regulatory wish list – forbearance, pricing flexibility, full deregulation of the large incumbent carriers and, most recently, in opposition to reclassification of broadband Internet access as a “Title II” telecommunications service to facilitate adoption and enforcement of proposed net neutrality rules (see *Views and News*, January 2011). The largest ILECs have, for the most part, gotten the regulatory concessions and outcomes they have sought, but their investments in network upgrades appear to be driven more by the presence of actual competition in certain of the markets they serve rather than by the regulatory concessions they have demanded and received. The *National Broadband Plan* notes, for example, that “[i]n general, broadband subscribers appear to have benefitted from the presence of multiple providers. Broadband providers have invested in network upgrades to deliver faster broadband speeds and enter new product markets – cable companies providing telephony and telephone companies offering multichannel video – but the data available only provide limited evidence of price competition among providers.” In fact, Verizon has scaled back its plans for FiOS, and AT&T's U-Verse barely satisfies the FCC's definition of

“broadband” service.

In fact, seeming to work at cross-purposes with its broadband goals, the FCC's USF policies have had many unintended consequences. They have actually created strong financial incentives for large carriers, such as the regional Bells, to divest rural exchanges to small and far less efficient rural LECs so as to qualify for high-cost support. And when that happens, the acquiring carrier has in some cases actually scaled back or abandoned altogether whatever broadband deployment was being pursued for those exchanges.

Section 254(e) of the *Telecommunications Act of 1996* requires that universal service support mechanisms “should be explicit and sufficient to achieve the purposes of this section,” and Section 254(k) requires that “[a] telecommunications carrier may not use services that are not competitive to subsidize services that are subject to competition.” Prior to the 1996 legislation, a variety of services – including long distance, carrier access charges, and various “premium” service features like call waiting and caller ID, had served as a prime, albeit implicit, source of universal service support. Access charges and other forms of “intercarrier compensation” (ICC) have provided a large source of revenue that was used for this purpose. The sec. 254(e) requirement that such support mechanisms “be explicit” served to catalyze efforts aimed at creating and administering formal universal service funding mechanisms. But their adoption has not eliminated the continued use of implicit subsidies via ICC.

In fact, the continued reliance upon ICC as a source of universal service support has proven to be incompatible with the development of competition – an express goal of the 1996 Act. Technology-specific ICC rules have distorted economic choices among competing technologies, such as wireline vs. wireless and TDM vs. IP, and the vacillations and uncertainties associated with ICC reform – something that's been going on for more than a decade – have discouraged investment and forced many innovative entrants out of business.

The policy linkage between USF and ICC has been longstanding and durable. Efforts to de-link these two mechanisms have been going on for many years and have been beset by considerable frustration. And while the latest Joint Board and FCC USF/ICC policy reviews seek finally to sever that linkage, they seem to place great emphasis on an overarching “revenue neutrality” principle that would make carriers “whole” irrespective of how the use of ICC as a support mechanism is phased out. And that is hardly a formula for promoting competition and investment going forward.

The linkage between USF and Intercarrier Compensation

In addition to explicit USF surcharges that have been imposed upon all interstate telecom services and used to support several specific programs – high cost, low-income, schools and libraries – access charges and other types of “intercarrier compensation” mechanisms have also been used to support “public policy” objectives associated with encouraging maximum connectivity to the public switched network. It is thus not surprising that the FCC has combined USF and ICC into a single comprehensive rulemaking docket.

From their onset on the mid-1980s following the break-up of the old Bell System, access charges have been set at higher multiples of cost than local call termination rates, notwithstanding the fact that from a technical standpoint both types of interconnection are essentially identical. The explanation for this distinction in pricing goes back almost to the beginning of the telephone industry in the early part of the 20th century. At that time, telephone service penetration, particularly among residential customers, was quite low. To encourage additional subscribership, telephone companies, led by the largest, AT&T, adopted a policy of setting basic residential exchange service rates below cost so as to attract customers. The carriers’ policy took advantage of a “network externality” whereby the overall value of the service to each individual subscriber would grow as the total number of people who could be contacted by telephone increased. The more subscribers, the more valuable the service; the more valuable the service, the more subscribers would be willing to pay the price of getting connected. And although the “entry price” for such connectivity may have been set below the corresponding cost, the revenue shortfall between the price and the cost of the basic residential exchange service line would be made up through above-cost pricing of long distance service, for so-called “toll” calls.

Although this pricing scheme may have started out as a business strategy aimed at encouraging subscribership and in so doing growing demand and revenues for the telephone companies, the concept was embraced by government policymakers and regulators as a means for achieving “universal service” – i.e., for maximizing citizen connectivity to the public telephone network. Regulators came to regard basic residential exchange access as a “protected service,” and sought various revenue sources in addition to long distance calling – including yellow pages and various premium services – and, more generally, exchange and long distance services furnished to businesses – as sources of subsidy for basic residential access. These policies were amenable to implementation due to two key attributes of the US telephone industry – (1) a single company, AT&T, controlled the overwhelming majority of both the local and long distance market, and (2) neither of these markets were open to any consequential amount of competition, assuring AT&T the ability to set and to control prices in both of these segments in a manner consistent with the “protected service” model.

When the Bell System was broken up in 1984 and competition was introduced into the long distance market, the single nationwide local/long distance carrier, AT&T, was no longer in a position to set and to control prices in both segments. Moreover, competition in the long distance market was both intended and expected to drive prices down, thereby threatening the amount of subsidy available to support the below-cost basic residential service. The solution came in the form of “access charges” as adopted by the FCC in 1984, a few

months after the Bell System break-up.

Although the divested Bell companies could no longer offer long distance calling services beyond the confines of their various Local Access and Transport Areas (“LATAs”), access charges afforded them the ability to continue to derive profits from the long distance services offered by now-separated AT&T and other long distance competitors, all of which were forced to pay those access charges to the divested Bell companies and other incumbent local exchange carriers for the ability to originate and terminate long distance calls from and to the local companies’ subscribers. Access charges were put in place, sanctioned, and enforced by the FCC and by state PUCs precisely as a means for assuring continuation of the long distance-to-local subsidy flows that had pre-dated the Bell System break-up.

There is no assurance that profits from above-cost ICC rates will actually be used to support broadband or anything else

Access charges were introduced during a period when local telephone companies’ rates were set under a regulatory system known as “rate of return regulation” (“RORR”). Under RORR, a phone company’s overall rate level was established on the basis of a “revenue requirement” determined by adding up the company’s operating expenses, depreciation and amortization of its plant investments used and useful in the provision of its regulated telephone services, plus a “competitive” rate of return on the average net book value of its capital investments. Once set, the revenue requirement was recovered by setting rates for individual services that, after 1984, included access charges. Whatever portion of the revenue requirement was not recovered through access charges and other “non-protected” services was then recovered from basic residential services. Under this arrangement, the more revenue that was collected via access charges imposed upon long distance carriers, the lower would be the residually-priced basic residential service. Over time, “rate rebalancing” policies pursued at both the state and federal levels resulted in reductions in switched access charges and offsetting, revenue-neutral increases in fixed monthly rates for basic residential and business access lines. However, while today generating much less profit than they did in the immediate aftermath of the Bell System break-up, switched access charges are still set at multiples of the underlying cost of providing these services.

But RORR has not been used in setting rates for AT&T, Verizon and other large ILECs for more than twenty years. Without a specific “revenue requirement,” there is no longer any assurance that the excess revenue that an ILEC is able to obtain from above-cost access charges and other premium services will be used to subsidize basic residential service or support other universal service goals. Indeed, basic residential service has been largely, if not entirely, deregulated in many states and, in part due to the introduction of “bundles” of local, long distance and premium services, the pricing of residential service is no longer set below cost.

As a result, that longstanding linkage between access charges and basic residential rates is now severed. For non-RORR companies, residential rates are no longer affected by the amount of revenue that the ILEC derives from access charges, and the ILEC is no longer required, or even expected, to use access charges to subsidize below-cost residential service. Put differently, any

increase in access charge revenue would flow solely and exclusively to the ILEC's "bottom line," i.e., to its shareholders.

From competitive indifference to a powerful anticompetitive weapon

When access charges were first introduced in 1984, the Bell System break-up had just been implemented. A central feature of the consent decree that forced AT&T to divest its local Bell Operating Companies (BOCs) was that the divested BOCs were prohibited from providing any interLATA long distance services. Customers were asked to select a long distance carrier from among a list of those offering service in their area. Because the BOCs were not themselves eligible to compete in the long distance market, they were largely indifferent as to which long distance carrier was selected by their local service customers. Access charges (following a brief transition to "equal access" interconnection) were essentially uniform across all long distance service providers, so even though they were set well above cost, all competing long distance carriers confronted the same access charge levels and none were either advantaged or disadvantaged relative to their competitors.

But the BOCs' indifference as to with whom they interconnected ended with the *1996 Telecommunications Act*. Now BOCs (and other incumbent local exchange carriers) would be competing directly with local and, ultimately, with long distance carriers, all of which required access to the BOCs' local networks to originate and/or terminate local and long distance calls. In the case of local calls, the originating carrier would "hand off" the call to the terminating carrier, and would be required to pay a "call termination charge" to the latter. The *1996 Act* contemplated reciprocity with respect to such charges, and required that they be set on the basis of forward-looking incremental cost. Long distance carriers were still subject to much higher access charges for interconnections with the local exchange carriers. Now, for the first time since the 1984 break-up, the BOCs found themselves in the position of providing rivals with essential interconnections, without which those rivals would be unable to compete.

This sea change in the nature of the relationship between the BOCs and rival local and long distance carriers had the effect of fundamentally transforming access charges and other intercarrier payments from their traditional role as sources of subsidy for basic and universal service into powerful competitive weapons that could be used by the BOCs to increase rival carriers' costs and, in so doing, place them at a considerable – sometimes insurmountable – competitive disadvantage vis-a-vis the vertically integrated Bell companies.

The use of ICC as a competitive weapon was anything but theoretical. The initial level of local reciprocal compensation rates was basically dictated by the incumbent local carriers in the mid-1990s. They were set in the range of one cent per minute – well above the actual incremental cost of terminating local calls – on the (as it turned out) mistaken belief that the incumbents would be net recipients of intercarrier traffic coupled with their misassessment of entrants' ability to specialize in serving specific types of customers. Seeing an opportunity to profit by offering *inbound* services that would require that incumbents *pay them* for call terminations, a number of competitive local carriers (CLECs) developed business models involving the termination of inbound local traffic – particularly calls directed to dial-up Internet Service Providers. Rather than respond competitively to this challenge, the incumbent BOCs

pursued a regulatory remedy, ultimately convincing the FCC in 2001 to declare ISP-bound local calls as non-local "information access" services to which an extremely low \$0.0007 per minute termination rate would apply. Traffic was presumed to fall into this category if the ratio of inbound to outbound calls exceeded 3-to-1. In response, those competitors that were able to remain in business sought to achieve "balanced" traffic by adding to their business model the termination of VoIP traffic to incumbent carriers. Once again, the ILECs pursued a regulatory solution to this competitive challenge by claiming that VoIP calls originated beyond the recipient's local calling area were not "local" at all and were to be subject to access charges – a strategy that if successful would have both forced VoIP providers to pay higher access charges and preclude CLECs from using outbound VoIP terminations to balance their inbound ISP traffic. This particular dispute remains unresolved, but has been teed up in the USF/ICC NPFM.

So why has this condition been allowed to persist for so long? There are many stakeholders with conflicting interests but the best explanation lies in the fact that preservation of the status quo is far more beneficial to the incumbent local carriers than under any potential revision in the intercarrier compensation system. Large ILECs, like the BOCs, are able to use above-cost access charges both as a source of profit as well as a tool for frustrating competitors. Rural local carriers ("RLECs") typically impose much higher access charges than their non-rural counterparts, and argue that without these revenues they would be unable to maintain service to customers in high-cost areas. Around five years ago, proposals to integrate local and long distance intercarrier compensation began to emerge, and in the February 8, 2011 NPRM the FCC has put forward a specific proposal under which the distinction between "local" and "long distance" would be phased out and replaced by cost-based call termination charges or other "local" types of reciprocal intercarrier compensation arrangements. Of course, the devil is in the details, and in this case a crucial "detail" is how the "lost" revenues associated with the effective elimination of most access charges will be recovered.

So in the end the linkage between ICC and USF will likely be severed, but the process by which this end result will be achieved is anything but certain.

What constitutes "affordable" telecom services – reconciling Americans' escalating telecom spending with any claimed need to "subsidize" network access

A central focus of USF policy has long been to assure that essential telecom services offered to consumers were "affordable" irrespective of the costs involved in providing the service. But "affordability" was defined way back when the only telecom service that typical households would purchase was a basic wireline dialtone line, with average household spending on telephone and cable TV somewhere around \$50 per month. Today consumers spend closer to \$200 per month on wireline voice, wireless voice and data, cable TV, and high speed Internet access. As a result, the revenue-generating opportunities associated with new broadband infrastructure investment – including broadband Internet access, wireless backhaul, and video services – are

considerably greater than they were in a voice-only wireline world. At the very least, the definition of “affordability” needs to be revisited, and with all of the additional revenue sources now available to support infrastructure in high-cost areas, the continuing need for ongoing USF-type support may well be on the wane.

Landline Voice

Having a household landline telephone may seem “old school” by today’s standards, but even with wireless substitution rates nearing 25%, the vast majority – some 70+% – of US households have not yet “cut the cord.” There is no comprehensive data that measures average wireline expenditures on a stand-alone basis. The US Bureau of Labor Statistics measures average household spending on telecom, but does not put wireline and wireless into separate categories. Similarly, the FCC reports third party survey data that seems to include some unspecified sources of wireless spending. Although wireline service bundles are available at higher and lower price points, our review of the available data suggests that the average expenditure on wireline telephony is now in the \$45 to \$50 range, varying somewhat by technology. Subscribers to Voice over Internet Protocol (VoIP) services typically pay less (between \$20 and \$30) while packages of unlimited circuit-switched local and long distance services as offered by ILECs are more expensive (between \$40 and \$65 per month).

Spending on wireline service has remained relatively constant over the past 25 years, increasing slightly. In 1985, average household expenditures on wireline telephone service was \$37 per month. During that period, the price of long distance services has plummeted, such that consumers are today getting more for their wireline telephone dollar. But increased demand for long distance calling and other service features has outpaced decreases in price, resulting in modestly increased monthly expenditures.

Wireless Voice and Data

Unlike wireline services, the wireless industry is rife with average revenue per user (ARPU) statistics. On average, consumers are spending around \$48 a month on wireless services. This figure includes voice, text messaging (SMS/MMS) and data services. On average, consumers are decreasing expenditures for the voice portion of their package, while spending more on text and data plans. Voice calling has stabilized at roughly 2.3-trillion minutes of use annually, while text message usage continues to climb. The latest data from the CTIA suggest that Americans send 1.8-trillion SMS messages annually. With the proliferation of smartphones, it seems likely that spending on data/text products will continue to grow.

There were very few people subscribing to wireless service 25 years ago – less than 1% of the US population. As such, even though the price of wireless has declined substantially over the 1985-2010 period, total wireless spending has increased dramatically, reflective of the 270-million mobile subscribers now taking service out of a total population of 310-million.

Cable TV/High Speed Cable Modem Internet

The most recently released FCC reports on Cable TV pricing and consumer expenditures confirm that spending on Cable TV is growing rapidly. As of 2008, average payments by consumers taking only video service had reached \$58 per month. This figure includes the price of basic service and extras like pay-per-view and additional

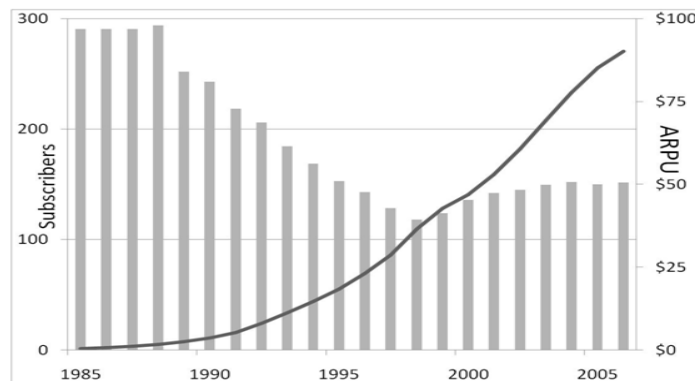


Figure 1. US Wireless subscribers and ARPU, 1985-2006

bundles of premium channels. Consumers who purchase high speed Internet and video in a double-play bundle add another \$40 or so to their cable bill, bringing the total to just under \$100. Expenditures on stand-alone Internet service are not tracked separately, but double-play bundles are almost always less expensive than the sum of two components if purchased separately. As such, consumers taking high speed internet as a stand-alone product are likely paying around \$50 to \$60 for the data connection. This same cable industry data shows that bundles that include voice services (now served over dedicated VoIP channels) add another \$30 to the monthly bill – confirming the lower end estimates for wireline voice service discussed above.

The video category has seen increases in monthly expenditures in every year since 1995. Subscribers are unambiguously buying more video service, outpacing inflation (as measured by the CPI) substantially. High speed cable modem service wasn’t even widely available until the late 1990s – FCC data shows only 1.4-million subscribers as of year-end 1999 vs. 43-million as of 2009. The category of Internet access generally, and high-speed broadband access, has seen considerable growth, in both price and subscriber-ship, over this period.

The bottom line

Expenditures on telecommunications services will vary from consumer to consumer and also with different service providers and locations. However, for a household purchasing landline voice, wireless services (possibly under a multi-handset “family” bundle), video and high speed Internet will be spending around \$200 per month for these services, and perhaps more if the individual services are being purchased separately rather than as part of a bundle. Starting with the mid-1980s wireline and cable TV spend of about \$50 per month, this represents roughly a three-fold increase over the past 25 years.

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