

Universal Service and the Myth of the Level Playing Field

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1. Introduction

Western Wireless, through a supporting document prepared by Steve G. Parsons, Ph.D., argues that wireless eligible telecommunications carriers (ETCs) should receive the same high cost support as incumbent local exchange carriers (ILECs), and that this support be based on forward-looking economic cost. Dr. Parsons relies on the following points to support his position:

- The Telecommunications Act of 1996 had twin goals of competition and universal service.
- Competitive neutrality, basing support on forward-looking economic cost, and elimination of rate-of-return regulation are essential for economic efficiency.
- There is little or no net cost to the Western Wireless policy prescription, due to historical inefficiencies of ILECs and the way they have been regulated.

Unfortunately, Dr. Parsons oversimplifies the 1996 Act regarding competition in rural areas. He relies on the invention “competitive neutrality” and erroneously ties it to economic efficiency. He incorrectly concludes that forward-looking costs and price cap regulation will improve economic efficiency. And, his portrayal of a “free lunch” is an illusion. In reality, the Western Wireless position has the cost of jeopardizing universal service support in rural America based on dubious economic reasoning. This paper explores these claims.

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2. Under the goals of the Act, competition is only a means to an end. Congress enacted provisions to ensure that competition does not jeopardize universal service.

Dr. Parsons refers to the twin goals of universal service and competition. Congress saw these goals as means through which consumers would obtain lower prices and advanced services. Congress was careful to treat the areas served by rural telephone companies differently, in recognition of the uncertainty regarding both the feasibility and the desirability of competition in rural service areas. The Act recognizes that competition may not serve the public interest in rural areas:

- Rural carriers were granted exemptions from the unbundling requirements of the Act.² Further, these exemptions could only be removed after a bona fide request for unbundled network elements, and a finding by the state regulator that this request is economically feasible, not unduly burdensome, and consistent with the universal service provisions (sec. 254) of the Act. Thus, while unbundling was a key pro-competitive element of the Act, it was not applied to rural service areas without additional findings by a state regulator.
- The Act provides for designation of multiple “eligible telecommunications carriers.” While such designation is relatively automatic in areas served by large providers, designation of multiple ETCs in areas served by rural carriers must be found to be in the “public interest.”³ This additional requirement clearly indicates that Congress was unsure that multiple ETCs in rural service areas was a good idea.
- The Act set out an ambitious universal service agenda, including comparable rates for comparable services in rural and urban areas.⁴ This extends to advanced services as well. Congress saw that such an agenda could not rely solely on competition in order to be achieved.
- The Act specified that universal service funding needed to be explicit, sufficient, predictable, and sustainable.⁵ This indicates a concern that the pro-competitive agenda of the Act not endanger the universal service agenda.

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² Section 251 (f).

³ Section 214 (e) (2).

⁴ Section 254 (b) (2) and (3).

⁵ Section 254 (b) (5).

These provisions of the Act show that Congress understood that the impact of competition in rural service areas was different than in the primarily urban service territories of large carriers. It asked state commissions to carefully consider many of the pro-competitive features of the Act before applying them to rural service areas. It is precisely this careful consideration that has led the Joint Board to the present proceeding. These considerations are not reflected in Dr. Parsons' document on behalf of Western Wireless. His initial statement is that "the twin goals of universal service and competition are complementary public policy objectives and neither can be fully achieved without the other."⁶ According to Dr. Parsons, there is no tradeoff between these two goals. Therein lies the fundamental problem with Dr. Parsons' position.

3. Economic efficiency does not necessarily result in universal service. Thus, the relevance of efficiency in the provision of universal service means achieving universal service goals at minimum cost, without sacrificing quality.

Supporting competition in rural service areas could lead to higher prices and less service. If competition naturally led to universal service, then the universal service provisions of the Act would be unnecessary. It is precisely because competition does not engender universal service in high-cost rural areas, or for low income households, that Congress went to great lengths to articulate universal service goals and how they were to be achieved.

Two examples of deregulation -- airlines and railroads -- illustrate how competitive market forces may lead to higher prices and less service in rural areas. These examples

⁶ Attachment D to Reply Comments of Western Wireless, at page 1.

also show how support programs may be inadequate in addressing these deficiencies. Congress deregulated the airline industry in 1978. One of the results was the loss of service to many rural areas. Congress created the Essential Air Service (EAS) program as a subsidy mechanism to provide service where the competitive market would not. The program provides subsidies for continued service as a result of deregulation.⁷ The EAS program has not prevented significant increases in rural air service prices nor has it prevented many rural communities from losing services.

Through the Staggers Act, Congress deregulated the railroad industry in 1980 (decades too late according to many economic experts). One of the most important features of this law was the provision for railroads to discontinue freight line service on routes that were unprofitable. Prior to the Staggers Act, railroads were forced to sustain unprofitable freight routes even while attempting to compete with other transportation modes. The result was extensive losses and many bankruptcies in the railroad industry.⁸ Passenger railroads, on the other hand, are unable to provide viable service to small communities, despite an extensive government subsidy program.

These examples should give pause to the idea that universal service and competition are complementary goals. In both cases, deregulation has resulted in increased economic

⁷ Details on the EAS can be found at www.ostpxweb.gov/aviation/rural/easfaqs.htm. Currently 104 communities receive EAS subsidies.

⁸ A good review of the regulatory experience of railroads can be found in Gallamore, "Regulation and Innovation: Lessons from the Railroad Industry," chapter 15 in Gomez-Ibanez, Tye, and Winston, editors, *Essays in Transportation Economics and Policy: A Handbook in Honor of John R. Meyer*, The Brookings Institution, 1999, pages 499-500.

efficiency, but in neither case has deregulation furthered the availability and affordability of services in rural areas.

Any reasonable analysis of universal service must begin with the premise that competition and economic efficiency go hand in hand, but that neither fits easily with universal service. It is a difficult task to achieve competition, efficiency and universal service simultaneously. Competition generally leads to economic efficiency (but not to universal service). It does so by generally ensuring that prices reflect the minimum costs of producing different goods and services, and that all producers and consumers face the same set of prices. Decisions are then made that economize on the use of scarce resources to produce the maximum value possible.⁹ However, policy-makers were not comfortable with the results of an economically efficient market for telecommunications services in high cost rural and insular areas, and for low income households. That is the purpose of the universal service provisions of the Act – to ensure the provision of services for rural and low income consumers that an economically efficient market might not produce.

Do we really believe that the economic value of connecting all high cost/low income customers is worth the cost to them and those that want to contact them?¹⁰ Once we

⁹ This is roughly what Dr. Parsons means by his four types of economic efficiency.

¹⁰ Universal service programs have an economic efficiency justification through what is called the “network externality.” This refers to the fact that networks become more valuable to all of their users as the size of the user group increases. This externality is real and may be an economic justification for reducing the price of network access in high cost areas. It does have limits, however. In a network, such as the US, with 95% penetration of basic telephone service, it is hard to see that the relatively small number of high cost customers produce a value commensurate with this cost. These high cost/low income subscribers are not likely to be able or willing to pay the cost of network connection, and it is unlikely that the network externalities are large enough to provide an efficiency justification for their connection.

support the access cost for these customers, we tradeoff some economic efficiency for the public goal of universal service by distorting their consumption decisions (they will consume relatively more telephone services and relatively less of other goods and services). Other consumption decisions are affected through whatever funding mechanism we use (those paying the support through universal service surcharges, for example, will consume relatively less of these services and more of substitute services – including internet services, cable telephony, etc.). Universal service is not, in general, economically efficient, and economic efficiency is not the goal of universal service.

In their classic book, Baumol and Sidak state that “another example of a goal that conflicts with economic efficiency is the nearly ubiquitous target called ‘universal service.’”¹¹ Given these fundamental conflicts, the application of economic efficiency to high cost funds is necessarily circumscribed. Public policy dictates that comparable services are to be available at comparable rates to “consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas.”¹² Economic efficiency is not the measure with which to determine what services are to be provided, at what prices, and for which consumers. Economic efficiency is relevant in that it asks that these objectives be achieved at minimum cost. On these grounds, the Western Wireless position comes up short.

¹¹ William J. Baumol and J. Gregory Sidak, *Toward Competition in Local Telephony*, The MIT Press, 1994, at page 25.

¹² Section 254 (b)(3)

Ironically, Dr. Parsons provides a perfect example of this.¹³ The following table summarizes Dr. Parsons' example:

Monthly Costs	Incumbent	Entrant	Total USF
Fixed Cost	\$10,000	\$8,000	
Line-Sensitive Cost	\$10	\$8	
Lines pre-entry	1000	0	
Total Cost pre-entry	\$20,000	0	
Per-line USF	\$20	0	
Total USF pre-entry	\$20,000	0	\$20,000
Lines post-entry	900	300	
Per-line cost post-entry	\$21.11	\$34.67	
Total cost post-entry	\$19,000	\$10,400	
Per-line USF	\$21.11	\$21.11	
Total USF post-entry	\$19,000	\$6,333.33	\$25,633

In his example, the incumbent initially serves 1000 lines at a fixed cost of \$10,000 per month plus a variable cost of \$10/month/line. All revenues are assumed to come from the universal service fund, so the incumbent's total monthly support is \$20,000 or \$20/line. Dr. Parsons then assumes that a "less costly provider" enters with fixed costs of \$8,000/month and line-sensitive costs of \$8/month/line and serves 300 lines. He assumes the incumbent now serves only 900 lines (presumably, the market has expanded now to

¹³ Parsons, page 8.

1200 lines). The incumbent's cost would now be reduced to \$19,000 or \$21.11/month/line (100 lines, and the variable costs associated with them, have been lost to the entrant). The entrant would receive $300 * \$21.11 = \$6,333$ although its costs would be $\$8000 + 300 * \$8 = \$10,400$. He uses this example to purportedly show that "CETCs are unlikely to recover as great a percentage of their total costs as the incumbent."

The example is flawed. First, is the entrant really a lower cost provider? This would only be true if the entrant could serve all of the incumbent's customers with this cost structure. And, if that is the case, then the entrant would replace the incumbent in this example. The entrant would receive a per-line subsidy of $\$10 + \$10,000/Q$, where Q is the number of lines served by the incumbent. Given that the entrant's per-line costs are only $\$8 + \$8000/q$ (where q is the number of lines served by the entrant), the entrant can satisfy the market demand more cheaply than the incumbent, and support based on the incumbent's costs, would be more than sufficient to achieve this result. In actuality, in Dr. Parsons' example, the entrant is a more costly provider than the incumbent on a total cost per subscriber basis (\$34.67 per line versus \$21.11). More importantly, note how total high cost support for this area is now more than 25% greater than it was prior to designating the second ETC and providing it with support based on the ILEC's costs.

Dr. Parsons' example does not claim that the entrant can serve the whole market with this cost structure – presumably he is trying to mimic reality where a wireless entrant may take some of the incumbent's lines but predominantly will serve additional consumers.¹⁴

¹⁴ This is not to say that it is realistic to assume that wireless carriers will substitute for many incumbent lines. This is discussed in the next section.

This begs the question: why has this “lower cost” provider managed only to capture 10% of the incumbent’s lines? The answer is that the entrant is not providing a very substitutable service for the incumbent’s service. This is what permits the entrant to have a “lower” cost structure as well. The “lower” fixed cost than the incumbent was only achievable because of its lower scale of operations in the incumbent’s territory – it could not serve the whole market for the \$8,000 fixed cost.¹⁵

It is important to capture the essentially realistic features of Dr. Parsons’ example. Wireless providers may well have a lower total cost structure for the services they provide in the areas they choose to serve. They generally build out networks in rural areas along main roads/highways and in population clusters. ILECs, on the other hand, as carriers of last resort, build their networks to serve all customers wherever they choose to live within the serving area. They stand ready to serve all customers. The wireless service may or may not work at a given subscriber’s home location. Consequently, the wireless service is less likely to work as a replacement for the ILEC connection to the network than it is to displace a considerable number of wireline minutes of use. The wireless provider is likely to take relatively few lines from the incumbent but will serve a sizeable market of customers that subscribe to wireless service as a complement to their wireline service. The result is that the previous universal service fund (\$20,000/month in

¹⁵ A more realistic description of a wireless cost structure would probably have relatively low line-insensitive costs. Wireless technology does not have the same scale economies as wireline service – this presumably is one reason why wireless markets are more competitive. Rural wireless services, in particular, may exhibit diseconomies of scale since it is likely to be costly to provide service coverage that includes the entire area. Not only do cell sites need to be added in proportion to the number of users, but many additional sites would be required to service very few users along sparsely populated roads.

the Parsons example) has now grown (to \$25,333 in the Parsons example¹⁶) and portable per-line support has grown from \$20 per month to \$21.11. It is this growth in the fund that jeopardizes it, and is not likely to be efficient.

I am not declaring that rural wireless services are undeserving of high cost support. That is a public policy question that should be posed in its own right. What I am pointing out is that the use of the high cost fund -- a fund originally developed to support landline network access in high cost areas -- to support additional wireless services in such an area, will increase the overall cost of universal service. It is more costly to support two networks than one, and it is even more costly to provide support for two disparate networks on the basis of the cost characteristics of one. That is the more optimistic scenario. The worst outcome is that the political support for the USF is shaken and the high cost fund is capped, reduced, or otherwise limited. As a result, ILECs would not receive sufficient support to provide network access in high cost areas. Loss of service is not what is meant by universal service.

Western Wireless and Dr. Parsons think this outcome can be averted. They offer forward-looking costs and incentive regulation as escapes. These are purported to reduce service costs in high cost areas so that there need be no increase in the fund as a result of their policies. Like other “free lunches” these cost savings are illusions. They are taken up in the next two sections.

¹⁶ This probably underestimates the total cost since it presumes that the ILEC has “saved” \$1000 in line-sensitive costs due to the 100 lines now served by the entrant. To the extent that there is less substitution

4. Forward-looking cost, while a valid theoretical benchmark, is not likely to further the goal of universal service in rural America.

Dr. Parsons is correct to point out the theoretical superiority of forward-looking cost over embedded (historical) costs for purposes of decision-making. What he fails to address, however, is the difficulties and ambiguities of measuring forward-looking cost, particularly for rural carriers. Forward-looking and embedded costs are not totally dissimilar.¹⁷ Both are measured at a point in time: one looks forward and the other looks backward. Both will change over time, due to the same factors. As technology improves, both forward-looking costs and embedded costs will decline. The latter declines with a lag since it partially reflects earlier (presumably higher cost) investments. Dr. Parsons provides examples of real estate and used computers as evidence that forward-looking costs are likely to be very different than embedded costs. These examples are misleading.

There is no evidence that local telecommunications services experience the rapid technological progress of the computer industry or the volatile swings of the real estate market. Rather, in a capital-intensive industry such as telecommunications, technological progress is a relatively slow evolution of the network. Even as technology advances, some costs (e.g., labor for installation of network facilities) increase. We should expect embedded costs to more closely resemble forward-looking costs under these conditions.

than this and/or the ILEC experiences less line-sensitive cost savings, the total cost will be higher.

¹⁷ For a detailed discussion of the relationship between forward-looking and embedded cost, with a simulation of their differences, see D.E. Lehman and D.L. Weisman, *The Telecommunications Act of 1996: The 'Costs' of Managed Competition*, Kluwer Academic Publishers, 2000.

Even if we accept Dr. Parsons' examples as relevant, his conclusion that we should base high cost support on forward-looking cost is inadequate. Regulators have based retail rates for local exchange carriers on prescribed and lengthy depreciation lives, and have sought to maintain relatively constant prices over time. These practices may be appropriate in a highly regulated environment but are out of line and inefficient under conditions of rapid technological change and/or volatile market conditions. Absent long term contracts, computer lease terms clearly show the need to recover costs rapidly under conditions of rapid technological change. Forward-looking costs are the right measure in that industry, and they are dynamic and far from constant over time. On the other hand, local exchange technology exhibits less rapid change and requires significant sunk investments. Under these conditions, the divergence between forward-looking and embedded costs should be much smaller.

How would Dr. Parsons measure forward-looking costs? Presumably, he believes the Hybrid Cost Proxy Model (HCPM) should be used for this purpose.¹⁸ The Rural Task Force has devoted considerable effort to examining the HCPM in rural areas. Their conclusion, supported by the Joint Board, was that it was not appropriate for use in the areas served by rural telephone companies.¹⁹ It is not just minor technical problems that can be easily fixed. Despite the considerable complexity of the model, it does not produce realistic estimates at a disaggregated level. If the results are averaged over large study areas, many of the inaccuracies may even out. In rural study areas, however, the

¹⁸ Parsons, at page 4. He acknowledges that the HCPM may have "shortcomings" but claims it can provide reasonable cost estimates for rural areas.

¹⁹ *Rural Task Force Recommendation to the Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, 16 FCC Rcd 6165, 6168-6182 (2000) (RTF Recommendation).

model produces cost estimates that “vary widely from reasonable estimates of forward-looking costs.”²⁰ It is unlikely that this flaw can be rectified in the near future. Furthermore, the HCPM contains no estimate of wireless network costs, nor does it estimate costs in a market where there are multiple ETCs.

Of course, forward-looking costs can be measured using other models. There are company-specific models that can provide such cost estimates.²¹ However, is it efficient to have thousands of ETCs preparing their own cost studies with oversight of regulatory commissions? It is hard to see how this can improve economic efficiency. Wouldn't it be less costly and more accurate to base a CETC's support amount on its own costs and rely on the readily available embedded cost data to calculate a rural ILEC's support?

Dr. Parsons dismisses such data as irrelevant. He claims it does not appear to be “audited for accuracy and consistency.” He provides no substantiation for this claim. I will not claim any particular accuracy for this data. The more relevant question is: what is the alternative? How does one audit a forward-looking cost model for accuracy? Cost proxy models are, by definition, consistent. The problem is they are consistently inaccurate, particularly when applied to small units of geography.

Embedded cost data is reported in a consistent manner and is auditable. While auditing is less than perfect, the *inability* to meaningfully audit forward-looking economic cost data is dramatic. If regulators wish to audit more extensively, that can be accomplished. It is

²⁰ RTF Recommendation, 16 FCC Rcd 6181.

relatively easy to compare time series of USF embedded costs across many companies, and look for outliers. It is not relatively easy to screen HCPM results for small units of geography for accuracy, without any benchmark of comparison. The only available benchmark that has any validity (meaning it can be audited) is the embedded cost data itself!

The problems with the HCPM are well documented and have been carefully considered by the Rural Task Force.²² The danger in Dr. Parsons' position is that it suggests that the inefficiencies of using embedded cost data for calculating rural ILECs' high cost support amounts might be large enough to make the Western Wireless proposals costless. Under this reasoning, making high-cost support fully portable on an equal per line basis to wireless ETCs need not increase the size of the fund if it is based on the HCPM rather than the rural ILEC's embedded cost. This position is not substantiated, nor can it be defended.

The HCPM currently produces forward-looking cost estimates comparable to embedded costs, on a nationwide average basis.²³ So, moving from one basis to the other will not in itself reduce the size of the USF²⁴ – but the other parts of the Western Wireless proposal will increase the USF. It is possible to change the inputs and structure of the HCPM so

²¹ I generally believe these to be superior estimates of forward-looking costs and have testified to this point, as has Dr. Parsons.

²² Rural Task Force, White Paper No. 4, *A Review of the FCC's Non-Rural Universal Service Fund Method and the Synthesis Model for Rural Telephone Companies*, September 2000. As noted previously, the Rural Task Force subsequently recommended against use of the HCPM for the rural carriers, a decision reiterated by the Federal State Joint Board on Universal Service.

²³ See Lehman and Weisman, footnote 9, page 78.

²⁴ On the other hand, applying the HCPM to small units of geography such as census block groups (CBGs), has the potential to significantly *increase* the size of the fund.

that it reduces the size of the USF enough to “pay for” the portability of support to wireless ETCs. It is not possible, however, to make the HCPM capable of providing telecommunications services to rural America. No amount of model magic can produce the high quality of service that rural carriers currently provide to their subscribers. (Mis)use of the HCPM to arbitrarily reduce support levels can threaten the availability of high quality service in rural America.

Dr. Parsons claims that the level of geography for determining USF should be “as small as administratively feasible.”²⁵ Dr. Parsons also asserts that the current USF mechanism is not competitively neutral with respect to large and small ILECs serving high cost areas, and further, that this creates perverse incentives for the sale of rural properties to small ILECs. There are several points of order here. The use of smaller units of geography does, in general, provide more accurate measurement of universal service costs.²⁶ Aggregation to the study area level results in inadequate support. This deficiency is greater the larger the study area. This is the reason why I agree with Dr. Parsons that the current mechanism is not neutral between large and small ILECs serving high cost areas.²⁷ High cost areas served by large ILECs receive little or no support while those

²⁵ Parsons, at page 6. He does caveat this statement with some practical requirements about data availability.

²⁶ See, D.E. Lehman, “Who Will Serve Rural America?” NTCA White Paper No. 2, Appendix, for a formal derivation of this property. The fact is that high cost support would balloon if it were disaggregated, say, to the CBG level. The California state high cost fund is computed at the CBG level and the total fund is around 10 times as large as federal high cost funding in the state, as a result.

²⁷ Equalizing the treatment of high cost areas served by large and small ILECs would substantially increase the size of the fund. The justification for treating large and small ILECs differently is that the large ILEC is better able to provide support for high cost areas internally, by charging higher rates for other customers or services. Similarly, using smaller geographical units (e.g., wire centers rather than service areas) would also increase the size of the fund (although it would be more accurate). Notably, when the FCC authorized disaggregation of USF support, it did not permit the overall level of support to increase.

served by small ILECs do receive support (although it is still somewhat inadequate since it averages high and relatively lower cost subscribers).

The “perverse” incentives for the sale of rural exchanges, however, are simply not present. The FCC’s rules do not permit high cost support to be calculated on the basis of the acquiring company’s study area. Instead, the acquiring company’s support is limited by the per line level of the selling company. Thus, when a rural exchange is sold from a large ILEC to a small one, the high cost support does not increase to fully reflect the cost of serving the acquired exchange.²⁸ Thus, part of the lack of competitive neutrality between large and small ILECs is exported to the acquiring company. Rural America would be better served if this constraint were dropped and the incentives for acquisition of high cost exchanges by rural ILECs were enhanced.

5. Rate-of-Return Regulation is a red herring – Western Wireless overstates its costs and underestimates the risks of its alternatives.

Similarly, Dr. Parsons and Western Wireless produce the bogeyman of rate-of-return regulation (RORR) as the culprit responsible for inefficiency. Presumably, if we dispense with inefficient RORR, the demands on the USF would be reduced sufficiently to pay for the portability that Western Wireless desires. Just as with embedded cost, Dr.

²⁸ The so-called mergers and acquisitions cap was modified in 2001 with the FCC’s adoption of “safety valve” support. Safety valve support is provided to rural carriers for up to 50 percent of any positive difference between the rural ILEC’s index year expense adjustment for the acquired exchanges and subsequent year expense adjustments. However, total safety valve support available to all eligible study areas is limited to no more than five percent of rural ILEC support available from the annual high-cost loop fund. See, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Fourteenth Report and Order, Twenty-Second Order on Reconsideration, and Further Notice of Proposed Rulemaking, *Multi-Association Group (MAG) Plan for Regulation of Interstate Service of Non-Price Cap Incumbent Local*

Parsons' assessment of RORR is flawed and overly simplistic. RORR, like embedded cost, is a red herring whose only purpose in the Western Wireless comments is to create the illusion that portability of the USF to wireless ETCs need not cost anything.

The theoretical inefficiencies of RORR are well-known but irrelevant to this proceeding. Price cap regulation can provide superior incentives to RORR: carriers, in theory, have incentives to reduce costs when they can keep some (if not all) of the increased profits that may result. RORR does not have this feature so, in theory, it results in inefficiently high investment and operating costs. In theory, this comparison is unassailable. In practice, however, it is more complicated and likely to be wrong for a number of important reasons.

- Price cap regulation, in practice, is less efficient than theory would suggest.
- The empirical evidence on price cap regulation does not suggest dramatic efficiency gains.
- The application of price cap regulation to small carriers raises a number of practical problems that suggest it is likely to be less efficient than when applied to large carriers.
- RORR, as actually practiced, is not as inefficient as theory would suggest.

I now examine these points in more detail.

The theory of incentive regulation attributes efficiency benefits over RORR when the price cap regime entails no earnings reviews, no earnings sharing, and adjustments of the X factors (productivity offsets) only when industry-wide productivity patterns change. In practice, none of these factors are strictly adhered to. Earnings have either been explicitly shared, or implicitly shared through periodic adjustments to the X factors. In

Exchange Carriers, CC Docket No. 00-256, Report and Order, 16 FCC Rcd 11244, 11285, para. 98 (2001).

addition, regulators have a number of additional policy levers (entry conditions, UNE pricing, quality standards, etc.) that they may use differently under price caps than under RORR. The theoretical advantages of price cap regulation over RORR are reduced when any of these features are present.²⁹

The empirical studies of price cap regulation appear to bear this out. The evidence that price cap regulation results in cost decreases relative to RORR is weak, at best.³⁰ There are still questions as to whether the cost declines merely reflect decreases in the quality of service and not true efficiency gains. The result of applying price cap regulation to the large carriers has been underwhelming efficiency gains, if any.

We should expect even smaller efficiency gains (if any) if price cap regulation were to be applied to the rural ILECs. First, these are a diverse set of carriers so that design and monitoring of the price cap plans would need to vary considerably among carriers. The relevant productivity gains would be quite different for carriers that operate in significantly differing environments (geographic and demographic). Second, the move to price cap regulation requires that service quality be monitored. This means that state regulators would need to expand significantly their measurement of service quality for

See also, 47 C.F.R. §54.305.

²⁹ See D.E.M. Sappington and D.L. Weisman, *Designing Incentive Regulation For The Telecommunications Industry*, The MIT Press, 1996.

³⁰ D.J. Kridel, D.E.M. Sappington, and D.L. Weisman, “The Effects of Incentive Regulation in the Telecommunications Industry: A Survey,” *Journal of Regulatory Economics*, Vol. 9(3), May 1996, pp. 269-306, and Ai and Sappington, “The Impact of State Incentive Regulation On the U.S. Telecommunications Industry,” *Journal of Regulatory Economics*, 22, 133-159, 2002. The latter found more network modernization under price caps but that “operating costs are not found to be significantly lower... on average.” Sappington, “Price Regulation and Incentives,” in the *Handbook of Telecommunications Economics*, edited by Cave, Majumdar, and Vogelsang, North-Holland, 2002, finds that evidence of price cap regulation on cost reductions is “mixed.” Clement Krouse and Jongsur Park,

many small ILECs in their jurisdiction. Third, exogenous adjustments to the price cap plan would need far more attention for small ILECs than for large ones. Policy/industry changes may have much more dramatic impacts on smaller carriers. For example, any change in service standards for rural carriers (such as RUS requirements for data speeds) may have significant cost implications that would require adjustment of the price cap mechanism. Fourth, investment spikes are more volatile for small carriers than for large ones, and this poses difficulties for the design of an appropriate price cap mechanism. One of the advantages of RORR for rural carriers is that it offers some revenue stability. This is important for a carrier with both high costs of service and costs that cannot be easily reduced under an obligation to provide service throughout its service area. In practice, far from offering a panacea, price cap regulation for the many rural ILECs promises to be a quagmire of costly administrative details.³¹ Based on the current evidence, the gains appear to be small in comparison.

It must also be noted that increased efficiency of rural ILECs may not be as desirable as it is portrayed by Dr. Parsons. It is likely that many rural deployments of broadband services are not profitable, due to relatively low consumer adoption rates.³² A recent NTCA survey showed that while respondents are making broadband services available to an average of 70% of their customers, only 6% of residential customers and 9% of business customers actually subscribe.³³ Price cap regulation would provide incentives

“Price Effects of Incentive Regulation in Local Exchanges,” *Information Economics and Policy*, June 2003 find more evidence of price decreases than cost decreases under price cap regulation relative to RORR.

³¹ This may explain, in part, why adoption of price cap regulation in the electric industry has not been as pervasive as in telecommunications.

³² For example, see D.E. Lehman, *The Costs of Competition*, NTCA White Paper #3.

³³ *NTCA 2003 Internet/Broadband Availability Survey Report*, May 2003, p. 6. Available online at www.ntca.org.

not to deploy unprofitable services. RORR limits these incentives but does not eliminate them, since the deployment costs are part of the revenue requirement of the regulated firm. Unprofitable services are also likely to be economically inefficient services.³⁴ So, if regulators wish economic efficiency as a goal, then price cap regulation will help promote this by *decreasing* the provision of broadband services in rural areas. If this outcome is not what regulators want, then they should be wary of the purported benefits of moving from RORR to price cap regulation.

Similarly, RORR is not as inefficient in practice as in theory. RORR carriers have multiple incentives to operate efficiently. Significant competitive pressure exists in the form of wireless usage, IXC bypass, VoIP, etc. Wasteful practices and unnecessary investments are not wise strategies for rural ILECs. They have multiple auditors, both internal (shareholders, coop members, etc.) and external (regulators, private and government lenders, NECA, USAC).³⁵ It is an insult to this oversight effort to simply dismiss the accounting data as not being audited.

Western Wireless baldly asserts that RORR provides incentives “to pad costs” but does not mention the incentives of CETCs (and others) in a forward-looking cost study. Forward-looking cost studies have an unprecedented ability to produce unachievable low cost estimates (e.g., for services a CETC might be purchasing from ILECs) or unrealistically high costs (e.g., for support funds that a CETC might receive). Indeed,

³⁴ Lack of subscription is an indication that the service’s value does not exceed its cost. If there are significant network externalities for broadband services, then their provision may be efficient even if it is unprofitable for the service provider.

one can always claim their cost study is more forward-looking than another if it provides cost estimates that are lower than the other!

Many small ILECs are average schedule companies – this is a form of incentive regulation where their earnings depend on the actual costs of similarly situated cost companies, and are divorced from their own particular cost experience. This means that companies can retain the benefits of cost-reducing innovations that lower their costs relative to those of similar carriers. These costs are a sort of proxy for each company’s costs – but one based on actual operating experience rather than a hypothetical and unauditible measure of nobody’s costs.

Dr. Parsons provides two additional reasons to believe that RORR is not all that inefficient. First, he notes that there are often long lags in the adjustment of retail rates: “Retail prices for many firms have not changed for years, and in many instances decades.”³⁶ If retail rates rarely adjust, firms can retain any cost reductions for extended periods of time – similar to a price cap regime.³⁷ Second, Dr. Parsons claims that “ILEC standards and constraints should be relaxed” due to competitive pressures from new

³⁵ Indeed, Attachment C to the Western Wireless submission is evidence that embedded costs *can* be audited, unlike forward-looking economic costs.

³⁶ Parsons, at page 4.

³⁷ Dr. Parsons’ consideration of “regulatory lag” is far too simplistic and somewhat inconsistent. Regulatory lag provides relatively efficient incentives under RORR, and this might apply to intrastate operations. Since interstate rates are revised annually, based on actual cost experience, any criticism of RORR would only apply to interstate operations. Given the prevalence of resources that are common to both intrastate and interstate services it is difficult to see how a carrier would exercise their purported ability to “pad” costs in one jurisdiction but not the other. Further, there is more competitive pressure on interstate access charges since there are a variety of ways to bypass these charges (including wireless interstate minutes).

entrants.³⁸ Of course, to the extent that there is such competitive pressure, they also provide incentives for firms to minimize costs.

Dr. Parsons notes the dramatic shift from RORR to price caps for the large ILECs and contrasts it with the retention of RORR for most small ILECs. There is a reason for this differentiated history. The efficiency gains from replacing RORR with price caps for the many small ILECs have not been demonstrated. It is also worth noting that while “TA96 suggests a break from ROR-based methods of pricing for interconnection and UNEs”³⁹ Congress explicitly considered, and rejected, a requirement that states employ price cap regulation at the retail level. This was part of the original Senate legislation (S.652) but was dropped when the Act finally passed both houses of Congress.

The Western Wireless appeal to the inefficiency of RORR is a ruse. Comparison of the real costs and benefits of price caps and RORR when applied to small ILECs is different than theoretical comparisons of these regulatory regimes in their purest forms. As Victor Goldberg pointed out in a classic article:

“The perspective afforded by the administered contracts framework suggests that the economist’s case against regulation has been overstated. Many of the problems associated with regulation lie in what is being regulated, not in the act of regulation itself. Further, many of the perceived failures of regulation (for example, entry restrictions) can be seen to have a plausible efficiency rationale.”⁴⁰

³⁸ Parsons, at page 6.

³⁹ Parsons, at page 4.

⁴⁰ Victor P. Goldberg, “Regulation and administered contracts,” *The Bell Journal of Economics*, Autumn 1976, 426-448.

Goldberg draws attention to the nature of the service being regulated. He provides the example of a food service contract wherein a private contractual agreement would entail many of the same features as traditional regulation. Quality of service, access to capital, and costs of operation are all concerns in a private contractual framework just as they are under regulation. In general, Goldberg says that services that require long-term investments require a balance between “the right to serve” and “the right to be served.” No regulatory form can avoid the necessity of striking this balance.

A case in point is the idea of auctions for universal service obligations. In theory, auctioning high cost support to the lowest bidder might lead to a reduction in the costs of providing universal service in rural areas. It might also lead to decreased quality of service, less innovation, litigation over extension of service to new customers that choose to build houses in remote areas, etc. Imagine competitive bidding between a wireless ETC and a landline ETC for the support to serve a high cost area. Support amounts will be minimized by awarding the support to the lowest bidder. What then? Myriad conditions would need to be included in the contract. Extensive monitoring would be required. The auction winner would require a service contract long enough to justify investment. The public would need to be protected against a carrier that does not provide adequate service. In short, all of the issues raised by traditional RORR would still be faced even if auctions for high cost support were to be adopted. Only a comparative analysis that recognizes the nature of the service can provide guidance as to whether or not such a mechanism is good public policy. Similarly, only a comparative analysis that recognizes the nature of universal service obligations can provide

meaningful input to questions such as whether and how support should be received by additional carriers in rural service areas.

6. Competitive Neutrality is not a useful concept for awarding wireless carriers the same support as ILECs. Wireless and wireline services are situated differently in important ways, and leveling the playing field requires a multidimensional policy approach.

It is wrong to think of wireless and wireline services as the same. There are important dimensions in which they differ, including:

- They have different cost structures. Landline technologies have large economies of scale compared with wireless technologies.⁴¹
- They have different quality attributes.⁴² The main advantage of wireless services is mobility, a trait that cannot be matched by landline services. On the other hand, wireline quality of service and availability are regulated by state regulatory commissions but mobile services are generally not.
- They have different service areas – in fact, the meaning of service area is different for the two. Billing address generally is the same as service address for wireline providers. Billing address has little meaning to a wireless provider in terms of where they need to provide service.
- They have different service qualities. Landline services generally receive high customer service ratings. Wireless services often receive poor ones.⁴³
- They have different pricing structures. Landline services generally include unlimited calling within the local area, while wireless services have a variety of usage-based pricing schemes.
- They have different revenue patterns. Dr. Parsons cites switched access charges as not competitively neutral – ILECs typically get 40% of their revenue from access charges while CMRS providers “receive virtually no switched access

⁴¹ Evidence of this appears in the *CMRS Competition Report, Eighth Report*, July 14, 2003 issued by the FCC. Paragraphs 112-113 reveal that there are 3.2-3.3 mobile competitors on average in rural areas, with 2.7 on average in the most rural category (<25 people/mi²). Paragraph 118 notes that rural and urban mobile prices are similar (despite the lack of USF). Clearly, the cost structure for mobile carriers in rural areas differs from that of wireline carriers.

⁴² See OPASTCO Reply Comments, June 3, 2003, CC Docket No. 96-45, FCC 03J-1, section III. D., pages 13-15.

⁴³ Complaints related to wireless service quality increased significantly during the 1st quarter of 2003, compared to the prior quarter. See, *Quarterly Report on Informal Consumer Inquiries and Complaints for the First Quarter of 2003*, FCC Consumer and Governmental Affairs Bureau (rel. May 30, 2003).

- revenues from long-distance providers.”⁴⁴ Dr. Parsons does not note that Western Wireless receives 25% of its revenues from roaming agreements, a source not available to ILECs. In fact, CMRS providers receive reciprocal compensation payments for terminating traffic. They *choose* to negotiate carrier-specific long-haul transit rates and they can *choose* whether or not to charge access fees. In short, they have the freedom to adopt the same rate structure as ILECs if they want – what is different is that regulators do not constrain their pricing.
- They have different public policy constraints. Wireless carriers do not have carrier-of-last-resort obligations. This includes the requirement to build and maintain network facilities to serve all customers within the service area – facilities that may be relied upon by CETCs to provide coverage in those same areas. Wireless carriers do not have to provide equal access to long-distance carriers. Wireless carriers also have a different timetable for deploying local number portability. Wireless carriers are generally unregulated in their pricing, while landline carriers have heavily regulated pricing structures.
 - As technologies evolve, the services that can be supported by each will continue to differ. Connection speeds, bundled services, call management services, etc. are likely to be different for wireless and landline technologies.

If “competitive neutrality” is applied to these technologies, then they should be equalized in all dimensions, not only the access to high cost support. The substitutability of wireless and wireline services in rural areas is largely a fiction. There is mounting evidence that wireless *minutes* are being substituted for landline *minutes*. This is different than evidence that wireless *service* is substitutable for landline *service*. There is some evidence that wireless services have a modest degree of substitution for 2nd lines, but little evidence that there is significant substitution for primary lines.⁴⁵

This is not to say that wireless services are necessarily adequate in rural areas. Whether or not there should be a support mechanism for wireless services in rural areas is a

⁴⁴ Parsons, at pages 6-7.

⁴⁵ The best evidence to date can be found in G.A. Woroch, M. Rodini, and M. Ward, “Going Mobile: Substitutability between Fixed and Mobile Access,” forthcoming in *Telecommunications Policy*, 2003. This study, exclusively focused on substitution in access, finds moderate substitutability between mobile service and 2nd lines and very little substitutability for primary lines. Notably, the study did not have a geographic dimension in the data, so it is not possible to differentiate between rural and urban areas. The

separate public policy question – one that must recognize the myriad differences in services offered, service quality, regulatory constraints, and service provider costs. At a minimum, any use of the USF by wireless ETCs must be based on their own cost structure and not the ILECs.

7. Conclusions: Western Wireless proposes an inefficient regulatory policy based on flawed economic reasoning.

The Western Wireless case presented by Dr. Parsons is not a step in the direction of economic efficiency. There is nothing in the Western Wireless proposal to ensure that wireless services become substitutable for wireline services. Thus, Dr. Parsons applies the principle of competitive neutrality in a one-sided manner in order to rationalize financial support for wireless carriers without them having to show the need for it.⁴⁶

The combination of policies currently in effect is untenable: Wireless carriers have been designated as ETCs and they have access to high cost support based on the ILEC's costs. The result is an increase in the USF and increasing political and economic pressure on these important funds, i.e., lower economic efficiency. Multiple ETCs may undermine the financial viability of rural ILECs. This was clearly not the intent of the 1996 Act. The magnitude of the problem cannot easily be contained. Competitive neutrality in the mobile service market would almost certainly demand CETC status for all of the CMRS providers serving a rural area (three on average) once it is received by any one of them.

FCC Eighth CMRS Competition Report also notes the difference between substitution in usage and substitution in access.

Rural America and low income consumers can probably use support for all these services. In a world of limited resources, however, efficiency demands that we not unnecessarily increase the costs of these programs.

At a minimum, if wireless carriers are to be designated as ETCs, they should be equalized in all other respects – service territory, quality of services, regulatory flexibility/constraints, and pricing structures. Their support should be based on their own costs, not on the ILEC’s costs. In that way, society’s cost of universal service is potentially reduced if wireless carriers can provide the same services for less cost – a real increase in economic efficiency.

⁴⁶ Dr. Parsons suggests that wireless carriers would not get a “windfall” based on Western Wireless’ losses (at page 8). Of course, profits or losses have nothing to do with whether a particular policy creates a windfall for a particular industry participant.