

Roger White, GTE Telephone Operations

I just want to remark that, one, when you look at current expenses, again, these are, because we're dealing with time series, not embedded items, that depending on how you define your horizon, they are the best estimate of your forward-looking costs. The second, in terms of efficiency, my company has just gone through a three- or four-year process of benchmarking every one of the processes in the company against the best across all industries to establish these processes. Our structure now reflects these changes. So I would suggest that do we have both an efficient and a forward-looking cost coming up with this.

William Sharkey, FCC

Any further comments from the panel?

Peter Copeland, U S West, Inc.

Yes, I have one. One other source. If people want to look at efficient new providers is to ask those efficient new providers for data, to relate that and to see, and put it on equal terms for these accounts, in a similar basis. I think if you want to say that this is for an efficient new provider, they can provide data as well as the incumbents. And that would provide a range, maybe not a range; maybe they'll both coincide. But if the basis to start looking at what productivity gains might be made on a forward-looking basis.

William Sharkey, FCC

Okay. Thank you. We've now moved into the period of time when the audience can ask questions. And as in the last panel, the state representatives can have the first opportunity. So I call for someone from a state commission. And since there appear to be no eager volunteers, is that right? Okay, are you a state person?

Labros Pilalis, Pennsylvania Public Utility Commission

A question in particular for Dr. Taylor. You mentioned that in estimating forward-looking expense type factors or expense related costs, we should not double count the effects of productivity. And I want to be more particular about your comment in that usually the role of productivity is taken into account, of course, in the context of what we conventionally call price cap regulation and for like ratemaking purposes that arises from there. To the extent that we are using any type of productivity factors to ascertain future expense levels for operational expense type levels for telephone companies for universal service funding purposes, why should we worry about any double counting?

William E. Taylor, National Economic Research Associates, Inc.

The double counting that I was concerned with would be if, for example, you believed because of your price cap productivity studies, that say unit costs were falling by 3% a year for a

local exchange company, and you said, "okay, that means that we can reduce the expenses in our universal service model and in our pricing model for unbundled elements by 3% per year." And I raise my hand and say "no, that's got a double counting in it." And the double counting is because there are other elements that are captured in all of these models, these proxy cost models, which lower unit costs in addition to this 3% that you thought was appropriate. Namely, as the telephone company going forward in time moves from 20% copper to 80% fiber, or from analog to digital switches, or any of the other changes that go on, those changes in and of themselves are reducing unit costs. So if you reduce expenses by 3% and these others on top of it, then you run the risk of having double counted. Some of the productivity growth in your original 3% was due to the fact that historically the companies have embodied technical change in their capital stock, and some is due to the fact that expenses have just been reduced as companies get more efficient. You don't want to double count them. That was the context of my remark.

Ben Johnson, Ben Johnson Associates

As we seem to have lots of time, let me take a moment to inject something that I thought fits right here. One of the concerns I have with the BCPM approach that they've recently unveiled, in which they simply did this survey and have an amount per line for various categories, is it completely breaks any link between their approach to expenses and their approach to the investment. So it really breaks your ability to go into their

model, or if you applied this same approach to our model or someone else's model you'd have a problem. It breaks your ability to see what happens, for example, as you vary the mix of fiber and copper, because they have an assumed amount for the maintenance of that fiber electronics, which is some composite average forward looking of these respondents to the survey. It has nothing to do with the specific mix of fiber electronics in their model. And it certainly has nothing to do with the what-if scenario that the Joint Board or some staff or someone else may have put into the model, in which they change the fiber breakpoint. So that's a serious flaw, and I don't think in and of itself it would work. Now, in contrast, to the extent we at least separate out the problems and say, okay, we have some costs like maintenance of fiber, for example, which we have some experience with. ARMIS itself attempts at least to give us some data about maintenance of fiber separately from maintenance of copper. We have some basis for judging that there's at least a linkage there, one's related to the other. If we are saving money by switching from copper to fiber, the ratio of expense to investment may be different for fiber than it is for copper, but you shouldn't have a double counting problem if you do it right.

Peter Copeland, U S West, Inc.

We feel that in the BCM that we've looked at the forward looking and that will align with the general outcome of the fiber mix that goes with the default values. If you differ from the default values, you can differentiate the expense per line for

the fiber maintenance, and the COE maintenance, which are individual items. So those maintenance items are separately identified, and if you're looking to get something different from the default view, you can alter the COE transmission, which is the electronics piece of the expense, to match your view. So that is possible to keep in sync.

Ben Johnson, Ben Johnson Associates

Right. But you've broken the link as a modeling matter, so the user has to be very careful. And frankly I'm not sure your survey responses match your model. I mean, I look at some of these numbers, and you've got just 23 cents to maintain an enormous amount of electronics, I suspect. So I'm not so sure 23 cents is enough per month per line to do that, but maybe it is. It's one instance where your number actually looks a little low to me. It may be that the survey respondents were assuming, say, 20% more fiber tomorrow than today, but not nearly as much as your model is assuming, so that may be an explanation for that.

William Sharkey, FCC

Are there other questions that are responsive to the productivity question? Okay, Joel.

Joel B. Shifman, Maine Public Utilities Commission

Yes. This is primarily for Ben. Ben made the point that operating and support expenses are in many cases not uniform between companies and are a function of the size and the operational characteristics of a company. How do you reconcile coming up with a reasonable number for the use of support and operating expenses with the concept of portability of support? So, for example, if a company — the Joint Board order provides for portability of high-cost support, but the interrelationship with the fact that if another carrier gets the support the first carrier's quanta of cost per unit changes by virtue of the paradigm of portability. How can that be dealt with?

Ben Johnson, Ben Johnson Associates

You seem to have several elements to the question; I'm not sure I followed it completely, but let me start with the part I think I did follow, which is that the whole notion of portability is, to go to something Dr. Taylor's been pointing out, if in fact our econometrics show us that small companies are, shall we say, inefficient in some categories, and they happen to have very high executive salaries per line, that's going to be driven out by the market. Even if you tried to give them the level of support that they're currently spending, that creates an opportunity for BellSouth to expand into their territory, or for other people to enter into that market and pick up that support. So with regard to some of these items, if it seems to be company structure

specific, the nature of the company and the way it's structured, you will ultimately need to set a reasonable level, and if you set it too high, you're actually going to create more problems for them than if you set a target that's more reasonable. Now that's a little distinct from saying there may be reasons that small companies tend to be in rural areas, rural areas may be harder to service, and anybody trying to serve that area would have difficulty supervising, for example, so their management costs could be higher as a function of density. A little bit different problem. And that would not necessarily be driven out by the market because a BellSouth would look at it and say "it's just not worth the trouble to try to supervise those techs 200 miles from the nearest group of supervisions, so we're not even going to compete in that area."

Joel B. Shifman, Maine Public Utilities Commission

(Inaudible) the non-linearity of operational support function which is exacerbated by virtue (inaudible). The area where they're not competing, the problem is exacerbated because of the fact that the market forces out the problem in the portion of the area, but the remainder of the area, the problem appears again but (inaudible)

Ben Johnson, Ben Johnson Associates

I'm not sure I followed that.

Joel B. Shifman, Maine Public Utilities Commission

That by virtue of the fact that let's say MCI, Sprint, BellSouth competes in a portion of the inefficient area, the market will drive out those costs, but to the extent they don't compete ubiquitously, that the problem of the inefficiency will become even worse in the area for which they don't compete.

Ben Johnson, Ben Johnson Associates

Well, I'm not sure you can fairly say there's inefficiency. I mean, if there's no competitive opportunity for someone else to come in and do it more efficiently, what's our criteria to say they're being inefficient? And again, I think that there's actually an array. There are some rural companies that may pay their executives more than they need to, but there's also some companies that do an amazing amount of work for a very small amount of money. And so I don't think we can overgeneralize. My experience with small companies is a whole array. Some of them are very cost efficient, some of them are not as cost efficient as they might be.

Joel B. Shifman, Maine Public Utilities Commission

I meant "inefficiencies" in the non-pejorative sense, sort of the diseconomies of scale sense.

Ben Johnson, Ben Johnson Associates

In general, I'm very skeptical of claims of economies of scale to management. Most economics suggests that that's a very questionable proposition, that in fact there may be some optimal scale in between, but these extremely large companies like the RBOCs certainly are beyond any necessary minimum scale to be efficient in the managing. Quite the opposite, what the literature usually suggests is management has diseconomies of scale, and that's a tradeoff versus other benefits. In the car industry, the size of the assembly line, there's a minimum scale that's enormous. And therefore in order to run that, you have to try to be a worldwide company, and you attempt to manage that. And it's a very difficult problem to manage it. So there are diseconomies in that management process that allow you to do things like lose market share enormously because you lose touch with your market, various things that happen that wouldn't necessarily happen to a smaller company.

William Sharkey, FCC

Do any other panelists wish to comment? All right. Another question? Okay. I think we can — David?

Dennis Weller, GTE

Dennis Weller with GTE. I just have a question about the customer and marketing expenses. I've heard a number of people today express concern about consistency between costing for

universal service and costing for unbundled elements. Now we know that in the various states right now, states are determining a percentage of avoidable costs associated with retail functions, essentially the same expenses we've been talking about. I wonder how the panelists would feel about taking those percentages as determined in each state, as the estimate of customer and marketing expenses, i.e., retail expenses? And if that's not to be done, how are we to reconcile the fact that in one venue we're assuming that a company avoids a certain amount of cost if it's not retailing to the customer, and in another venue perhaps assuming another level of cost that they're incurring if they do.

William Sharkey, FCC

Does the model sponsor want to take a first crack at that?

Ben Johnson, Ben Johnson Associates

I'll start. I think we ought to try to have some consistency at least in philosophy and to some degree in understanding the data. So if the states are concluding that, say, 25% of your revenue stream — or 20% a more typical number — 20% of the retail revenue is attributable to these kinds of functions, and if we know that retail revenue in total is say \$30 by the time you throw in all the different types of revenue that customer generates, that gives you an answer. It's 20% of \$30, or \$6. And that ought to tie in fairly closely to your philosophy to what you're looking at here. And it's directly

related back to this question of a revenue benchmark. If your revenue benchmark is the \$30, you know, you need to be looking at a net revenue available to pay for these costs, net of the overhead. And that is one way to solve the potential problem. You don't have to be confusing the two issues. If you're selling out wholesale the elements of the network, you don't add in those costs. But if you're trying to decide whether or not a company has costs that are higher than a revenue benchmark, you need to recognize those costs.

Mark Bryant, MCI

I guess I will distinguish between two kinds of costs that generally fall into these categories. There is one set of costs that are involved with the basic servicing of the account: the ability to render a bill, the ability to respond to bill inquiries, the ability to respond to customer complaints. And that's one set of costs that clearly should be included in the definition of "universal service costs." And it ought to be included at perhaps some different level in the price that's established for the unbundled network elements. What shouldn't be included either in the universal service costs, or in the cost of the unbundled network elements, are those costs in this category that relate to marketing campaigns, advertising, and so forth that's designed to stimulate demand. In the case of universal service, what we were trying to provide here is the right of citizens, the ability of citizens to get basic connectivity to the network. And that's not something that we

should have to go out and advertise. It's not something we should have to mount marketing campaigns to cause to come about. In the case of the unbundled network elements, it clearly doesn't belong there, either. Because that in effect forces the new entrants to subsidize the very marketing campaigns that'll be directed against them.

Peter Copeland, U S West, Inc.

Well, I disagree with your approach. I think, on one hand, in a state where you say that these customer service expenses up to 25% might be avoidable, and then to say they have no relation to the basic service that you just said they're avoidable from a retail standpoint for universal service, is definitely trying to have your cake and eat it too. You can't avoid the costs on one side and then not include it as an appropriate retail cost of doing business to provide local service, on the other hand. And I think costs for marketing, and they are very limited for basic residential service, need to be included in universal service, the limited costs that are there. And that you have to handle things in an even-handed basis. If you eliminated as an avoidable cost of retail service, then it's definitely a cost of retail service that should be recognized for universal service, as long as it's related to basic universal service, to the basic service, and not to the vertical elements as such.

William E. Taylor, National Economic Research Associates, Inc.

To frame this debate, remember that we are trying to calculate the forward-looking incremental costs of an efficient new entrant. Now, an efficient new entrant is going to have marketing costs like we've never seen before. It's going to have marketing costs like AT&T suddenly had, and MCI and Sprint suddenly had when equal access came. You know, the fact of the matter is, that the forward looking — this particular set of forward-looking costs are going to be very, very important to a new entrant. Now, I think that's a fact we could agree upon. Now where we probably disagree is what use you make of that in a Universal Service Fund and in pricing of unbundled elements. Well, you leave it out of the Universal Service Fund, and the race, if you like, for serving in high-cost areas becomes just a little bit slower. If a new entrant can't go out and advertise and somehow that's not included in the prize he gets if he wins the customer, that's going to slow down competition. And for unbundled network elements, sort of the same argument. I mean, we need level playing field competition. And if the efficient new entrant is going to have these sorts of costs, then it only makes sense that those same sorts of costs, no more no less, be part of the forward-looking costs of the ILEC.

Mark Bryant, MCI

Yes. I think it really, I mean, the question is not what are the absolute total of all of the costs that are going to be

faced by anybody that's participating in the market. What we're trying to establish here is at what level of subsidy will a carrier providing this basic universal service, that's accessible for all of the customers, be fully compensated for the provision of that service? And that's a separate question from what kind of level of expenses am I going to choose to incur, or am I going to be forced to incur in order to enter the market or in order to stay in the market? And to me, properly, that amount of expense, is not the cost that we're attempting to identify that ought to be the subject of a universal service funding pool. And to respond to Peter's earlier point, there are lots of reasons why carriers incur marketing expenses, and which theoretically are recovered in the rates that they charge for local service. They attempt to sell more lines, more second lines, so they can sell more vertical services, to get them in the door. But they really aren't a part of this basic obligation to provide universal service, for which they, in all justice, ought to be compensated for. Nor are they a component that ought to be included in the unbundled network elements that are sold to competing carriers.

William Sharkey, FCC

Any additional discussion on this? Okay. Glen?

Glen Brown, U S West

Glen Brown with U S West. Question to Dr. Bryant. You mentioned that advertising expense should not be included in basic service costs of basic universal service. Is that correct?

Mark Bryant, MCI

Yes.

Glen Brown, U S West

Doesn't Section 254 of the Act require that when a carrier is designated as an eligible communications carrier, that they must advertise the availability of that service? I think it's written right in the Act. So, wouldn't at least that amount be part of providing universal service?

Mark Bryant, MCI

Well, certainly I wouldn't object to some kind of tombstone ad that said "yes, here I am offering this basic service." I don't know that I'd be willing to pay for seven-day coverage on CBS about that availability.

Cathy Ford, U S West

Cathy Ford from U S West. This question is also directed at Dr. Bryant, and it's a somewhat related issue. The Hatfield

Model has an overhead expense percentage of 10%. And yet in the avoided cost models of AT&T and MCI, my experience has been that they recognize overhead expenses of well over 20% when they're calculating an avoided discount and expenses that they're going to be removing. So I'm wondering if you can comment on the vast difference in those percentages, and how you justify those differences?

Mark Bryant, MCI

In all honesty, I'm afraid that one of the things that happens in this business is that we develop tunnel vision. And I am not at all aware of what is in those avoided cost models, or how they were developed. I couldn't even tell you who developed them, to be quite honest. So, yes, I'd like to be able to respond to your question. I can tell you that the 10% is essentially based on AT&T's overhead cost.

Cathy Ford, U S West

Okay. I have a follow up question, then. Don't you think (inaudible)?

William Sharkey, FCC

The question was: Should not these two levels of overhead cost be consistent?

Mark Bryant, MCI

Well, it depends on the basis for the calculation. And again, I have to plead tunnel vision. I don't know what kinds of costs have been included in these avoided cost models. If indeed we're looking at what costs are the constituents of the prices that are being charged today, it could be well that you're looking at something that's reflective of embedded cost. And the purpose in development of these models is to estimate the forward-looking costs that are going to be incurred by companies as they enter the market. Those are two different quantities.

William Sharkey, FCC

Okay, do we have other questions?

Bill Tyler, BellSouth

Bill Tyler of BellSouth. I'll direct my question to Ben Johnson and Mark Bryant. And it deals with the share in instructors(?). If we consider, Mark I think you said in the Hatfield it's 33% default, and Ben if I recall it's 50% in your model?

Ben Johnson, Ben Johnson Associates

On poles, and 100% on the other two.

Bill Tyler, BellSouth

Fifty percent on poles, okay. If 50% or 33% of the investment is only considered, then how is, on the expense portion of it, how are the rents treated? In say the corresponding 6411 account?

Ben Johnson, Ben Johnson Associates

I'm assuming, in effect, that the rent is that 50% offset. In other words, half the time, you're either renting somebody else's pole — let me restate it. Often, you're renting somebody else's pole. Sometimes somebody is renting from you. The data I've seen seems to indicate the net effect of that activity is to cancel out roughly half the poles that would need to be placed. And again, this is a hypothetical model. If we're not careful, all we would do is we would place enough poles for the carrier as if there was nobody else willing to pay rent to hang on those poles, and as if there were no more power poles available that you could hang on. So the way it's handled, is the user has a factor for sharing. We set it at 50%, we think that gets you roughly at the right point. But again, that is something that could be studied further. But you would not then also impute rent revenues from pole attachments. That would be double counting the same phenomenon.

Mark Bryant, MCI

Our approach to that is consistent with what Dr. Johnson just said.

William Sharkey, FCC

Any other responses? Other questions? Well, there being none, I guess we can adjourn. What time — David, do you want to make any announcements for tomorrow? We continue at 9:00 tomorrow for two more sessions.

(End of Tuesday's Session)

**Staff Workshop on Proxy Models**  
**Federal Communications Commission**  
**Washington, D.C.**

**January 14 and 15, 1997**

**Wednesday, January 15**

**Panel 3: Modeling Capital Expenses**

David Krech, FCC

Would everybody take their seats, please. Welcome to the second day of the Staff Workshops on Proxy Cost Models. This morning we'll be having our third panel that will be on Modeling Capital Expenses. Our panel will be moderated by Dr. Emily Hoffnar of the Universal Service Branch at the Commission. She's also the Federal Chair of the Federal State Staff. Emily.

Emily Hoffnar, FCC

Thank you. Good morning. Thank you again for coming. I'll start by reiterating the ground rules which everyone followed so beautifully yesterday. I don't think to, but for form. I'll start by asking a question that the panelists have already received. They'll then have two minutes to respond and we'll start with the modelers followed by the others, and then one minute each for rebuttals. And we have a timekeeper here to help police the proceeding. Unfortunately, Jerry Hausman could not

make it today, so he's sorely missed. But, will the rest of you please introduce yourselves starting with Susan.

### Self-Introductions

Susan Baldwin, I'm a proxy for Lee Selwyn, Economics and Technology. Jim Vander Weide, I'm a professor at Duke University and Financial Strategy Associates. Ben Johnson, I'm a consulting economist that developed the model sponsored here by the New Jersey Ratepayer Advocate. My name's Rich Clarke, I'm with AT&T and I'm here to represent the Hatfield Model which is sponsored by AT&T and MCI. Larry Cole, GTE Laboratories, Inc. I'm Bob Schoonmaker, GVNW, I'm representing the Rural Coalition. Labros Pilalis, Pennsylvania Public Utility Commission staff.

### Emily Hoffnar, FCC

I'll read the first question: How should capital cost reflect the existence of and risks associated with irreversible investments? What empirical evidence exists to support this answer? Is a comparison with a capital costs for current CLECs and IXCs an appropriate test? Respondents representing specific sectors of the industry are encouraged to provide any publicly available information that may be useful in answering these questions. Rich?

Richard Clarke, AT&T

First, the risk associated with irreversibility of investments is one that has always existed in the past for both the LECs and for practically any other type of firm. An example that I saw given that even a supermarket in the produce department that has a relatively short shelf life, and if they decide to buy a load of produce and it doesn't get sold, but that's pretty much of an irreversible expenditure.

Now, the types of this risk on a LECs user cost of capital really are correctly captured by traditional discounted cash flow or capital asset pricing methods that have been used by regulators or investment bankers to determine a firm's user cost of capital. These methods, they incorporate all of the available knowledge that is available to investment analysts or shareholders about expected LEC future earnings and share prices. And these investment analysts' expectation about share prices and earnings, is it self-based on their knowledge about how fungible a LEC's capital stock is to other industries or other firms and how the value may change due to wear and tear, potential obsolescence or any changes in the external price of these capital goods.

Now, our empirical evidence has shown that there has been no sea change in the riskiness of LEC capital, that in particular DCF and Cap M analyses of the LECs' cost of capital had been remarkably stable over the past year and stable over the last several years. We see investment bankers continuing to discount

LEC telco assets at a range of 8 to 10%. So, we have not seen any major shift that should cause anybody to be concerned that there's some excess amount of riskiness now that's not being captured in cost of capital estimates through traditional methods. There's a number of simple reasons. One is it's certainly very naturally difficult to enter LEC local exchange markets. The LECs have mounted a very effective campaign in the courts that may be delaying it. And to the extent that this competition develops, it may well not increase LEC risk, that they have new opportunities to make use of their plant through the sale of wholesale services and unbundled elements.

Emily Hoffnar, FCC

Thank you. Ben?

Ben Johnson, Ben Johnson Associates

My short answer to how should capital costs reflect the irreversible risks is "in the traditional manner." The regulators and the proceedings I've been involved in over the last decade or more have been hearing about this problem of irreversible investment, hearing about the problem of uncertainty of future economic lives of their investments, uncertainties about competition. Throughout that period, they've been relying on DCF and similar methods that give them feedback from the market. And those are, I think, appropriate methods that continue to work in this context. The only unique wrinkle that

might come in here is whether we would need to deal with differential risks for particular types of plant, for example, the decision between copper and fiber. I don't believe that that subtle distinction of risk that would exist would be of a great enough importance to actually need to capture that in a model, but certainly if someone wanted to explore it, they could. The problem would be you'd have a lack of data as to decide on. You'd almost just have to assume a difference in risk. I don't know of any particular way you could measure any such difference between particular capital components.

As to whether or not the IXCs or the CLECs could be useful, certainly that could be part of an overall analysis, but I suspect you'd find that the incumbent carriers have substantially lower risks because of their strong market position and thus you would see at least a half a point, maybe a percentage point difference in needed return between an incumbent and a start-up who has great uncertainty as to what market share that start-up would achieve. So, again, to the extent you're trying to model an incumbent, you need to be sure that you're using data that's appropriate to the incumbent. If you're modeling a start-up, a considered higher risk would be appropriate.

Emily Hoffnar, FCC

Thank you. Jim?

James Vander Weide, Financial Strategy Associates

The risk of irreversible investments should be included in all three components of the capital expense, the depreciation rate, the capital structure and the cost of debt and equity. The Commission has given us a very clear standard that the cost of universal service should reflect the cost of a new entrant. And it's not the cost of the incumbent, I would differ on that. It's the cost of a new entrant they've indicated. The investment in the network is measured on forward-looking economic costs of a new entrant. That forward-looking economic cost of the investment in the network is considerably less than the embedded cost of the investment in the network. The forward-looking expenses are considerably less than the embedded expenses of the incumbents. It would be inconsistent to apply monopoly or regulated rates of return and depreciation rates at the same time one uses forward-looking investments and expenses of a new entrant in the marketplace.

We do have some evidence on the risks of irreversible investment. Since the Commission has announced that it's going to be using forward-looking expenses, and since the Hatfield Model has used regulated capital structures and regulated costs of equity, we have noticed that every company that had previously announced they were going to enter and build facilities to provide local exchange service has scaled back their investments. They have noticed that if they can buy it at the incumbent's cost of capital, they can avoid the risk of having to invest in the